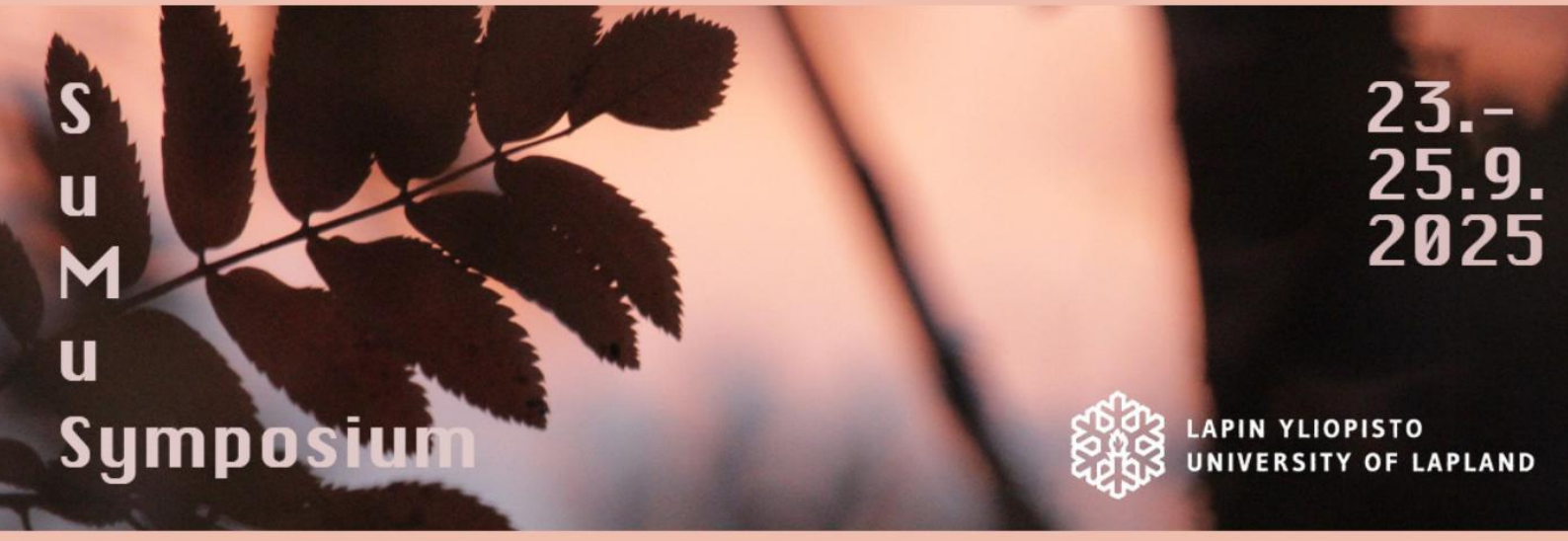
Proceedings of the 1st Sustainable Naturecultures and Multispecies Futures Symposium: Human-environment relationality

September 23-25, 2025
University of Lapland



Sustainable Naturecultures and Multispecies Futures Symposium:

Human-environment Relationality

September 23-25, 2025, in Rovaniemi, Finland

Symposium proceedings, edited by Emily Höckert, Outi Rantala, Linda Tallberg, Juulia Tikkanen, Daijiro Yamagishi, Mikko Äijälä & Jarno Valkonen

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WORDS OF WELCOME

The University of Lapland's research community, Sustainable Naturecultures and Multispecies Futures (SuMu), was established in 2022 as an interdisciplinary initiative. SuMu brings together scholars across the social sciences, humanities, natural sciences, and arts engaged with naturecultures, multispecies relations, Sámi and Indigenous studies, and the politics of natural resources in times of planetary transformation. We are unified in our desire to exercise ethical agency through our research, supervision, and teaching, and to offer an open and vibrant platform for academic discussion on more-than-human relations in and beyond the changing Arctic.

This proceedings booklet gathers contributions from the first-ever SuMu symposium held in Rovaniemi, Finland, in September 2025. The symposium sought to foster transdisciplinary discussions along with invitations to think, imagine, act, and research with more-than-human worlds. Our symposium theme, 'Human-environment relationality', was organized in three core themes: Naturecultures in practice, Multispecies Knowing, and Indigenous relational ontologies. Over 80 participants attended, including artists and scholars from anthropology, arts, environmental humanities, Sámi and Indigenous studies, environmental science studies, feminist theory, organizational studies, sociology, and tourism studies, challenging the ontological divide between nature and culture, human and non-human by emphasizing human-environment relationality as a mode of being-in-the-world.

The symposium presentations engaged a multiplicity of perspectives across political, disciplinary, and socio-cultural contexts. Contributions explored how socio-ecological relationships are formed as mutually inclusive, co-dependent, and co-created processes. Presenters addressed questions of multispecies justice concerning animals, plants, and human communities, and introduced alternative methodological and artistic approaches to research and practice. Many contributions critically interrogated human exceptionalism and the assumption that "the human" is the only being capable of knowing, cultivating curiosity, and attentiveness toward diverse modes of thinking, imagining, and acting in processes of knowledge creation. By foregrounding human–environment relationality, the symposium emphasized that human communities do not merely use or inhabit the land, but live and breathe with the land and more-than-human others.

At an early stage, the rather daunting name Sustainable Naturecultures and Multispecies Futures became shortened into SuMu, which means ‘fog’, ‘mist’, or ‘smog’ in Finnish. For us, it is a metaphor for uncertainty and unpredictability of futures in a time of significant planetary change, and for embracing the haziness of knowing and living together with multiple, more-than-human others. We were excited to navigate and get lost in SuMu-worlds with so many participants during the symposium days. We hope you enjoy these texts as much as we do – they are a snippet of the wonderful presentations we shared during those beautiful fall days in Lapland.

"THERE'S NO FUTURE IN ICE"

Lichen, Reindeer, Olfaction, and Environmental Change

Tarsh Bates & Susan Hauri-Downing[1]

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ABSTRACT

Olfaction is a vital and neglected sensory aspect of place-making and interspecies communication. Ephemeral and invisible, smell chemicals are exchanged at all scales, from the molecular to the atmospheric, flowing between microbes, fungi, plants, animals, soil, water, and air. Odorants move through and between bodies and species, integral to life processes and multi-species place-making. However, olfactory orientations are increasingly redolent with the pungent stench of colonial and capitalist over-consumption, extraction, and terra-firming. In the long dark winters across Sápmi, reindeer forage through the forests, attracted by the smells of lichen buried under layers of snow. However, climate change causes rain and unpredictable snowmelt, which then freezes into ice. The volatile chemicals released by the lichen are trapped under the ice, and the reindeer starve. This seemingly small shift in olfactory relations between lichen, reindeer and frozen water has profound effects. This paper describes an artistic research project, "*There's no future in ice*," which explores how creative practices can help us better understand the olfactory relations of lichen, reindeer, and ice, experiences of ecological grief and loss, and the response-abilities of settler-colonial consumption.

[1] Based on Whadjuk Noongar Boodja / Southwestern Australia, Susan Hauri-Downing works at the intersections of social work and artistic methodologies. Her creative practice focuses on bio-cultural diversity, ecological grief and loss, and interspecies relationships. Based in Ubmeje Sápmi/Northern Sweden, Tarsh Bates is a transdisciplinary artist/researcher/educator interested in the aesthetics of interspecies relationships and queer ecologies. We collaborate on the Scents of Solastalgia project, which considers smell not only as a sensory experience but as a form of ecological memory. We explore how the smells around us change and how creating new smellscapes can foster a sense of agency and connection. All images courtesy of the authors, except where indicated.

OLFACTORY SOLASTALGIA

Figure 1

Reindeer and reindeer lichen in Sápmi

In the long dark winters across Sápmi, also known as Northern Fennoscandia, reindeer move through the forests attracted by the smells of lichen buried under layers of snow. However, climate change has caused unpredictable snow melts, more wet snow, and freeze, thaw, freeze events (McVeigh, 2021). The melted snow freezes into ice, covering the lichen. The volatile chemicals released by the lichen are trapped by the ice, and the reindeer starve. These shifts in olfactory relations have profound effects on multispecies ecologies, migration, economies and cultures.

Figure 2

Reindeer lichen frozen in ice

Inspired by this tragedy of olfactory metabolisms, we started the artistic collaboration, *Scents of Solastalgia (SoS)*, which explores the role of smells in more-than-human connections to place through the lens of solastalgia. *Solastalgia,* coined by Glenn Albrecht (2005) describes the distress and disempowerment felt by humans in the face of rapid changes to familiar and cherished environments, those places to which we belong or which have claimed us. Solastalgia is particularly relevant for environmental change that threatens individual and community "senses of identity, place, belonging, control" (Albrecht 2005, p. 57). Importantly, solastalgia acknowledges active processes of ecological degradation, destruction and devastation, often elided by commonly used terms such as "climate grief" or "ecological loss." It also recognises the relationality between individuals and communities, human and otherwise, and emphasizes the importance of 'home' or place (Tupou et al., 2023).

Smell chemicals are volatile, and many are water soluble, which means they are sensitive to temperature, humidity and pH. Therefore, atmospheric and climatic shifts, changes in land use and water regimes, and terrestrial salination and ocean acidification influence their presence, volatility and movements, altering behaviours and orientations of critters within ecosystems.

Do reindeer feel solastalgia if the smell of their environment changes so profoundly that they can no longer sense their food?

In the *Scents of Solastalgia* project, we explore how changes in smellscapes change our sense of belonging and ask what it might mean to preserve place-based smells if the place no longer exists. The project currently flows between Whadjuk Noongar Boodja and Ubmeje, Sápmi.

Figure 3

Smell walking in Boorloo /Perth, Whadjuk Noongar Boodja / Western Australia and Ubmeje /Umeå, Swedish Sápmi. Photograph on left courtesy of Elena Hauri, 2024

THERE'S NO FUTURE IN ICE

During an artistic residency in Ubmeje in 2024, we researched and developed a multi-format artwork called "There's no future in ice."

Figure 4

We collected water from the Umeälven and gathered small quantities of lichen from the forest.

Figure 5

Using an Alembic still, we distilled these into fragrant lichen water…

Figure 6

… which we froze into ice sculptures.

Figure 7

We distributed the sculptures around the built environment of Umeå as ephemeral votive offerings, ghosts of lichen past.

Figure 8

As the weather warmed, the sculptures melted, gradually releasing the fragrance and small lichen fragments.

During an interdisciplinary performance lecture called “Volatile Ecologies,” with artist Mari Keski-Korsu, Sámi archaeologist Marcus Fjellstrom and ecologist Tim Horstkotte, we invited audience members to hold frozen lichen-water cups in their hands as they listened to a discussion about the effects of over-consumption on lichen, ice, reindeer relations.

Figure 9

Photographs courtesy of Mattias Pettersson, 2024

We talked of the impacts and implications of climate and environmental change, the “green transition”, mining, tourism, urbanisation, and forestry on Sápmi and its people. We offered a decision: to hold the ice, to bear the pain, a temporary discomfort. As Mari spoke of walking with permafrost, Marcus of ancient reindeer diets and glacial terraforming, Tim of the pressures faced by Sápmi ecologies and Sámi herders, and Sue described this project, the warmth of our hands melted the cups, releasing lichen fragrance into the room. Mari guided us through a ritual of culpability, burning Baltic amber, *Bryoria* lichen, and tall (Scots pine) on rocks collected from Umeå. We followed the fragrant smokes through time, connecting us to the sky, water, and land of Sápmi, and offered apologies.

Figure 10

We left lichen-ice sculptures in the forest around the Ubmeje…

Figure 11

… humble offerings of apology and hope.

Figure 12

We held the sculptures as they melted in the warmth of our hands, liberating the lichen and its smells, staying with the pain, and acknowledging our culpability.

These durational performances can be viewed in the video work, "There's no future in ice."[2]

Art is highly evocative. It engages our senses and is crucial for understanding affective, emotional, and embodied experiences of the world. It helps connect us with the past, present, and future, and individuals, communities, and ecology. In the olfactory project, "There's no future in ice," artistic practice enables us to learn from a land to whom we are strangers, explore the impacts of Western industrialisation and overconsumption on environments, and create smellscapes for places that are disappearing or lost entirely. We try to work with humility, listening gently and smelling lightly.

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[2] "There's no future in ice" has been exhibited in *To Notice is to Remember*, 2025, Bioart Society, Helsinki Biennale and Frame Contemporary Art Finland; Relate North 2025 online exhibition, and Resonance: Dialogues in Art & Ecology, 2025-2026, Southern Forest Arts, Northcliffe, Western Australia.

SEED SOVEREIGNTY AS A QUEST TO PROTECT ONTOLOGIES BASED ON INDIGENOUS AND ANCESTRAL KNOWLEDGES IN SOUTH-WESTERN COLOMBIA

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ABSTRACT

This article presents one of the insights of my current thesis, which is focused on spelling out how seed sovereignty has become a fight not only to protect agrobiodiversity in south-western Colombia, but also to protect the ontologies of the territory that are based on Indigenous and Ancestral Knowledges (IAK). By applying a Political Ontology (Blaser, 2009; Escobar, 2007; Gutiérrez, 2016) framework, the quest to protect traditional and native seeds will be connected to a fight to preserve ontologies of the territory that have become unified by the embodiment of an ancestral mission as seed savers. The categories used for the two frameworks have been informed by an extensive fieldwork consisting of 50 chosen conversational circles (Kovach, 2009), and semi-structured and unstructured interviews implemented mostly in the department of Nariño, Colombia. In sum, the connection between seed sovereignty and the ontologies based on IAK of south-western Colombia will be presented amidst two main points of discussion and insights. The first one, in terms of IAK as a valid category that is not only emancipatory, as employed by the co-researching communities, but also an important contribution towards plurality and the project of the pluriversum. The evidence of the field work material will be used here to underpin how IAK are a fundamental part for the unification of south-western Colombian ontologies. And the second one will present how the ancestral mission of the territory has become a unifying element materialized within the fight for seed sovereignty in the territory. Lastly, a concluding remark will be drawn regarding how the ontologies of south-western Colombia

have materialized a political goal through seed sovereignty to further materialize an ancestral mission and offer a possible alternative to current challenges.

INTRODUCTION: SEED SOVEREIGNTY, DEFINITION AND RELATION TO ONTOLOGY

As a concept, there are several definitions of seed sovereignty, which may vary depending on the ontology connected to it. Following the definition of the Seed Guardians Network of Colombia (SGN), which is a pioneering seed saving grassroots organization from south-western Colombia, seed sovereignty is the freedom of seeds to reproduce, be exchanged, sown, harvested, and saved as a family (Red de Guardianes de Semillas, 2021, p. 11) to promote genetic agrobiodiversity (Krishna et al., 2016; Scaramuzzi et al., 2021). As Alba Portillo, the founder of SGN, explained, this also involves the protection of agrobiodiversity against the ecosystemic, cultural, social, and ontological consequences created by widespread use of agrochemicals, genetic contamination, and soil erosion (M. Altieri, 2000, 2009; M. A. Altieri, 2003, 2005; M. A. Altieri & Nicholls, 2005, 2012).

The ontology of the seed savers of SGN is a relational one (Escobar, 2022; Kothari et al., 2023), by which seeds are interconnected with all other beings, and conceived not just as living things with full agency of their own, but also made of the same essence as human beings. Below are excerpts of two interviews, one with a Campesino, which is a non-indigenous form of identity connected to land, and another one with an Indigenous leader:

> Seeds are the basis of life, and seeds are part of who we are (…) Seeds are part of the family of our territory (…). If one seed is lost, a whole life is lost, and not just the life of the seed itself, but also the life that is inside of us. And by life of us, I do not only mean the life of us Seed Guardians, but the life of everyone in the territory, and of all species that are cohabitating the territory. Protecting seeds is an important goal on its own, because it means to protect who we are, the life that we have in the territory, and all the species that live in it. (Alba Portillo – co-founder of the SGN, 2025, conversational circle)

Likewise, in the words of one of the members of the SGN, which is the governor of the Pasto indigenous reserve of Gran Tescual in Puerres, Nariño:

> Well, the seed, as I told you, in other words, is who we are (…) So, we start from the fact that we are also a seed, right? We, for example, are the seed (…) we too

> are constituting seeds, or, in other words, we are seeds that can generate transformations. And the seeds come to us, because, well, we are seeds too, we are stardust. So when we talk about...planting seeds, then we immediately celebrate it... and by doing it, we recognize that spiritual, ancient, cultural pigment that comes from what we are: Cosmos, children of the stars (….)

It is also important to mention that, from other ontologies, whether similar or different to that of the SGN, Seed sovereignty has for example been connected to a food sovereignty framework (Adhikari, 2024; Greenberg et al., 2021; Jefferson & Adhikari, 2019; Kloppenburg, 2014, p. 1225; Nishikawa & Pimbert, 2022, pp. 21–24; Shiva, 2012; Trauger, 2015; Wach, 2016, p. 62; Wittman et al., 2010), as part of a public good economy (Gaia Foundation, 2023), as part of a political movement (Hernández Rodríguez, 2023; Peschard & Randeria, 2020), as a biocultural right (Bezner Kerr, 2013; Girard et al., 2022, pp. 145–159), or also as a farmer's rights (Nyantakyi-Frimpong & Carlson, 2024) evidencing a conflict of ontologies (Gutiérrez Escobar, 2016; Gutiérrez Escobar & Fitting, 2016).

METHODOLOGY

The methodology included the implementation and selection of 50 semi-structured and unstructured interviews (DiCicco-Bloom & Crabtree, 2006; King, 1994) and conversational method (Kovach, 2009) circles, which were recorded and transcribed with the goal of understanding IAK and the ontologies of seed savers and guardians. The recordings were implemented between April and June of 2025, mostly in the department of Nariño, Colombia, and with members of the SGN and other seed saving organizations and activists in Colombia. It is important to note, that I am a member of the SGN, and have ancestral roots in the territory, for which the SGN considers me a part of the family in the territory, which highly facilitated the implementation of the field work. The recordings additionally followed free, prior, and informed consent by obtaining such consent verbally and by establishing a direct line of communication and ongoing involvement of the co-researchers in all of the phases of my research. Because of this, the people are not seen as participants but as co-researchers who are actively contributing to the research, and will continue to do so even after I finish my PhD.

The usefulness of applying a combined mix of interviews and conversational methods lies on their sound ethical underpinnings that favor a direct and effective inclusion of the communities in the research, and because they focus on a language of the 'spirit' (Meyer, 2008, p. 227) or the 'soul', where feelings and spiritual connections are more communicative than words. Thereby, in order to understand, for example, how people can feel, and talk to the seeds, and how seeds talk back, conversational methods, semi-structured and non-structured interviews can provide flexibility to facilitate a better understanding. The methodology also

attempted (…) to unveil knowledge that was previously ignored…" (Chilisa, 2011, p. 100), while being careful to avoid romanticization of communities' knowledges by focusing on how ontologies are effectively manifested through seed saving practices and materialized connections. The respect of the self-determination (International Labour Organization, 1989; United Nations General Assembly, 2007) of the communities was taken as a guide to provide methodological validity, as it allows communities to share experiences in their own terms (Kovach, 2009, p. 82).

INDIGENOUS AND ANCESTRAL KNOWLEDGES: THE ANCESTRAL MISSION AS UNIFYING ELEMENTS OF THE ONTOLOGIES IN SOUTH-WESTERN COLOMBIA

As a result of the field work trip, it was evidenced that the ancestral mission is a fundamental element that allows the ontology of seed savers of the department of Nariño in south-western Colombia, to be unified. In other words, the ancestral mission assigned by the territory is one of the fundamental connecting elements that allows the ontologies of Indigenous, Campesinos and people that do not have such an identity, to adopt the same ontology (Bartra & Otero, 2019; López et al., 2023; Volverás-Mambuscay et al., 2021). And not only the same ontology, but also a corresponding political project for seed sovereignty, as explained by Camilo Muñoz, a seed saver of Quillacinga background from Nariño (Muñoz, 2025, personal interview). This is something that does not happen frequently in other territories of the country, for such identities may be clashing in terms of their ontologies and their political projects (Fontana, 2014)

In order to link ontologies to a political struggle, the framework of Political Ontology was used, which was underpinned by the concepts developed by Mario Blaser (Blaser, 2009, 2013, 2014), Arturo Escobar (Escobar, 2007, 2017, 2019, 2022) and Laura Gutiérrez Escobar (2016). Mario Blaser (2009) and Arturo Escobar (2014) provided a conceptualization of an ontologies as tantamount to worlds or embodied stories that depict ways of being amidst combined land-based thinking and feeling. Laura Gutiérrez (2016) research served as an antecedent to depict conflicts on the use of as clashing ontologies that propose different political projects.

The ontologies of seed savers of Nariño were expressed when the co-researchers (The people participating in the interviews and conversational circles), explicitly spoke about their ontology but also when they spoke about their ways of being and worldings, including struggles to protect them in the political arena. During several moments, the community used a concept, which is also formalized during my research, which is that of Indigenous and Ancestral Knowledges or IAK. This concept combines elements of knowledge systems of Indigenous Peoples and Campesinos, which can be conceived as a plural rural identity (Rico Rodríguez & Urquijo Torres, 2021). Seed savers or guardians of Nariño referred to IAK as a fundamental but marginalized element of their ontology, which is the one that contains the

interconnectedness of everything that happens on a spiritual dimension (Meyer, 2008, p. 270). Below is an excerpt of an interview of an agroecology activist and worker of Nariño, who is neither Indigenous nor Campesino, but which introduces the importance of IAK:

> So, we have Indigenous and Campesino communities that have been always very closely linked to the biodiversity of the territory, and know their value at first hand. This generates several knowledges in the communities that are very vast and little explored, as there is no real recognition of such Ancestral and Indigenous knowledges (…) (Carlos Mauricio Trujillo, 2025, personal interview)

The term IAK has antecedents in the ways in which south-western Colombian ontologies have been historically underpinned by an ancestral connection to land and the community (Angulo et al., 2019; Caicedo, 1981). Under this ancestral connection, Indigenous Peoples and Campesinos, but also people that live in the territory and have neither of this identities, have become unified in the construction of communitarian and political ways of organization around seed sovereignty, understood as the protection of agroecology (Barogil et al., 2014; López et al., 2023; Volverás-Mambuscay et al., 2021) and traditional and native seeds (Villafuerte, 2017).

The category of IAK recognizes the importance of Indigenous knowledge systems and the struggle for the recognition of Indigenous stewardship on the Andean ecosystem, while also attributing a central dimension to the ancestral connection to the territory, which is the ultimate unifying element for all seed savers of the region (Fontana, 2014; Moreno-Lopez et al., 2020; Volverás-Mambuscay et al., 2021). In that sense, the use of IAK evidenced a transformative and unifying nature as it was used by members of the SGN as a way to embody the struggle of seed sovereignty that is shared by the ontologies of seed savers in south-western Colombia (López et al., 2023). Including an IAK category, in parallel to the existing categories such as Traditional Ecological Knowledges (TEK) and sole Indigenous Knowledges, promotes pluralism and enlarges the Pluviersum spectrum by including new worldviews under the umbrella of resistance against colonial structures that promote fragmentating identities (Maddison, 2013).

The interviews with Indigenous, Campesinos and other inhabitants of Nariño showed that many ontologies of Nariño entail the embodiment of IAK as seed savers, and the transcendence of a historical process of marginalization and fragmentation of ontologies that used to be unified. That is, without disregarding the victories of the global Indigenous and Campesinos movements, the seed savers of Nariño expressed their concern by the political and ontological differentiation lived in other territories between Indigenous and Campesinos. Below is an excerpt of one of the co-researchers:

> (…) Protecting seeds is a way of protecting our ancestral knowledges, which mean also protecting the memories of our ancestors that taught us that we are

> one with nature (…) Seeds speak to me, as they also speak to us members of the Seed Guardians Network, because we have accepted our ancestral duty and mission in the territory (…) our friends in Tescual or in Ipiales know this as well as us. We are all part of the family, and so, the problem is that in our territory, people are no longer willing to listen to what the land and the seeds have to say (Sonia Miranda 2025, personal interview)

Although there have been victories of the Indigenous and Campesino movements that have been materialized through tools such as UNDRIP 2007 (United Nations General Assembly, 2007) or UNDROP 2018 (United Nations General Assembly, 2018), several seed savers of Nariño expressed that such differential tools have meant differential access to rights, which in turn creates political division. In the case of Nariño, Campesinos and Indigenous peoples, and also people who do not have such an identity, have however managed to maintain a unified ontology (López Cortés, 2018) because IAK is embodied by the shared quest for seed sovereignty or seed autonomy seed guardians. In addition, this is an embodiment of an assigned ancestral mission of the territory. In the words of the Pasto Indigenous governor of the Gran Tescual reserve:

> We can understand seed autonomy to be a fight to preserve the Indigenous and Ancestral Knowledges of our region, and of course we will form part of this (…) What we want, is what you all want as well, which is simple… the recognition of who we are, that is, in our territory, (…) this means that our seed saving initiatives are not only respected but also promoted… this also means that our ancestral knowledges will be able to hopefully influence the policies of the future (…) If we are all unified in what we are, as you know, in the sacred essence of what human beings and nature, and a profound spiritual and ancestral link with the territory, then we will not have any problems with defining seed autonomy or at least in framing this (Taita Vicente, 2025, conversational circle)

The ancestral mission in south-western Colombia and seed sovereignty

As a part of IAK that informs the ontologies of seed savers of Nariño, the members of the SGN expressed that they have an ancestral mission to protect the family of the territory, which is, in other words, the commitment to protect the agrobiodiverse family of the territory of Nariño (Red de Guardianes de Semillas, 2021, pp. 10–11). In this sense, the members of the SGN, whether Indigenous or campesino, equally shared this ancestral mission in importance, and also in terms of its strong underpinning for their ontology, that is, to understand what is and what exists in the world (Ulloa et al., 2007). For the SGN, the ancestral mission to protect the family of the territory is then manifested in a political

struggle to promote agrobiodiversity and help generate policies that protect the ways of life in the territory and its spirituality

Taita Raúl Cuastumal, who is the governor of the Indigenous Pasto reserve of Muellamúes, also spoke about the importance of the ancestral mission to embody an ontology of seed savers that allows one to speak with seeds, and not in the metaphorical way:

> If one has managed to establish an ancestral connection with the territory, and has embodied the ancestral knowledges of the territory, which also means that an ancestral mission has been assigned and is starting to materialized, then they become part of the family of the territory and will thus understand and connect to seeds. Only then, will they know that seeds actually talk to us… and the trees, and the land, and every single bit of life. The seeds have been speaking to us, and we have been able to speak to them, since the birth of our communities. And in order to talk to the seeds, you do not need to be Indigenous or Campesino, you need to be able to connect with your own soul (…) Because if you really connect with your soul, you will know that you, yourself have always been part of Mother Nature, and realize that you are also one with our ancestors and with the land. Only then, you can talk to seeds, and they will talk to you. Only then, will you realize that they have always been talking but you haven't been listening (…) So, you do not need to be recognized as Indigenous or Campesino to be able to protect traditional and native seeds. You need to simply connect yourself with the land, with the ancestral territory. And as in your case, be assigned a mission to then become part of the family of the territory (Taita Raúl Cuastumal, 2025, personal interview)

Another example can be found in the testimony of a neo-farmer from Nariño, Guillermo Torres, who is not a member of the SGN, but also expressed his commitment to the ancestral mission assigned to him by the territory of Nariño. Guillermo expressed that he decidedly accepted his ancestral mission very early in his life, while also acknowledging the many ways of materialization that it would adopt in his life (Moreno-Lopez et al., 2020). That is, an ancestral mission can adopt many ways of materialization, which in the case of Guillermo was reflected in different chapters of his life. Guillermo expressed how his ancestral mission is directly linked to protect IAK of the territory:

> There still a way of being in the territory of Nariño that has not been fully lost… although it is very much at risk, because of… you know, this system of selfishness and individualism that has been pushed into our modern societies (…) When you go to the countryside of Nariño, it is as if you have entered a completely new space of human connection, that is, nature connection (…) It is more than frowned upon to think that your individual preferences matter… the individual

> doesn't matter here, the group does! And… still, this is ever present in our territory, fortunately… still, we think collectively, we think as one, sometimes… and this is something that we must protect. (Guillermo Torres, 2025, personal interview)

As Guillermo, others such Taita Vicente Obando, of the Indigenous Pasto Reserve of Gran Tescual, or Taita Raúl Cuastumal, of the Indigenous Pasto Reserve of Muellamúes, explained that a mission can only become one if it is accepted and materialized. And in order to accept the mission, one has to be aware of it, and how it is linked to one's own ontology. In the case of the members of the SGN, the constant dialogue with seeds, through which they receive direct messages, allows them to accept and materialize their ancestral mission by mean of their everyday seed saving practices and political activism to push for agroecology policies. Such is the case of one of the senior members of the SGN, Aura Lina Domínguez, who embodied the quest against genetic contamination in the municipality of San Lorenzo, Nariño, by actively preserving traditional and native seeds and growing them (Domínguez, 2025, conversational circle).

During the field work of 2025, two other concepts were brought up by the co-researchers: Buen Vivir and Catholic values. Several Campesinos, such as Rosa and Marina Cojoa, who are not members of the SGN, but are activist seed savers and members of the Quillacinga Indigenous community of El Encano, used the concept of Buen Vivir (Rosa and Marina Cojoa, 2025, conversational circle), as mission to commit to a way of life in harmony between Nature, the Community and their individual health (Acosta, 2013; Gudynas, 2011; Waldmüller, 2014). Furthermore, members of the SGN constantly referred to God as an energy that reminds them about the mission to serve others, which is indeed ontologically similar to the Catholic notion of a mission (Imbruglia, 2014). The catholic faith, although very controversial amongst some seed savers, was, however embraced by others, who said they collectively received an ancestral mission, which is similar to the catholic concept of a mission becoming revealed through contact with other people (Mooney, 2009).

Buen Vivir was also expressed by other co-researchers within an ancestral mission that can be materialized as a source of hope, or rather an imaginary of hope (Acosta, 2013, 2016) in the context of the department of Nariño. In this context, the philosophy or development concept of Buen Vivir was understood as a materialization of the ancestral mission assigned by the territory. This was evidenced by the narratives of hope assumed by members of SGN and other seed savers, that directly tied Buen Vivir to the assignment of an ancestral mission in the territory of Nariño, which unified the ontology of both Campesinos and Indigenous:

> (…) Seeds for me are life. A life that can be found in you and in me, and in everything that at this moment surrounds us. (…) And I want a life of Buen Vivir (…) This is why I am still waiting one day to be able to purchase this part of

> additional land that you see here… I want to extend the natural reserve and build a house here (…) It is my duty, and my dream, my ancestral mission, to keep protecting our territory and our traditional and native seeds, and so I have done. This mission is what connects us all Campesinos and Indigenous throughout the territory of our sacred Nariño. So, you see? We protect our ancestral seeds because they are part of the life that is also inside of us. And we, as Campesinos know this, as well as our Indigenous allies (Aura Lina Dóminguez, 2025, personal interview).

Another member of the SNG who materialized his ancestral mission through the creation of memory cuisine, Mario Mora, also connected this mission to a narrative of hope for Buen Vivir as a means of resistance against the coercion of the capitalist system:

> My Buen Vivir is lived by what I am doing right now (…) I am lucky to have found a materialization of my ancestral mission here in Taller de Amasijos. This is the mission that I also assumed when I joined the SGN, and that we hope that all people that come through here, understand, and start embracing. Protecting seeds, the wildness of nature, is also important, because we cannot forget who we are (Mario Mora, 2025, personal interview)

The Ancestral mission in other territories

The concept of ancestral mission is however not unique to the department of Nariño or south-western Colombia. There are other parts of Colombia, in which communities also adopt this type of mission as a way to guide their actions and express their ontology (Osorio Calvo, 2017). Such is the case, for example, of Indigenous peoples of the Sierra Nevada de Santa Marta, which is a sacred territory located in the northern part of Colombia. In their ontology, the mission is a collective one assigned to the ethnicities of the territory and consists mainly of maintaining the spiritual balance in their territory, to which they refer as the heart of the world. Furthermore, they introduce an ontological concept used by some Indigenous peoples called the Law of Origin, which is a set of rules and ancestral knowledges that regulate human-nature interactions:

> (…) For the ethnic groups of the Sierra Nevada, all things and manifestations that exist in the universe are represented in their territory through these representations. Communication is maintained, and from that territory they have the mission of maintaining the balance of the world in a spiritual way. That is why they consider the Sierra to be the Heart of the world (Beltrán, 2017, p.34)

For the ethnic or Indigenous communities that inhabit the territory of the Sierra Nevada de Santa Marta, the ancestral mission is associated with an ontology that assumes human beings to be sons and daughters of Mother Earth (Prieto, 2014), and thus acquire an ancestral duty towards her. Such duty mainly involves restoring the harmony with its spirit, nature and all of its elements. In the case of the Arhuacos, which are one of the Indigenous peoples that inhabit the Sierra Nevada de Santa Marta, the ancestral mission is accomplished by equally protecting the territory and all the interconnected networks of the ecosystem as well as advocating for the cultural and sociopolitical order of the Arhuaco peoples (Beltran, 2017, pp. 34–39).

Furthermore, the connection between the mission and the emancipatory need to unify previously separated ontologies becomes evident in the following paragraph:

> (…) From there, each people's commitment to autonomy, and to the recovery, recreation, reconfiguration, and re-emergence of their particular and convergent collective identities and their own governing structures, has been tied to this ancestral territorial unity, to the original common bond that these four peoples maintain with it, and as an expression of their joint commitment to its quest (Juan Pablo Muñoz Onofre, 2024, p. 220).

CONCLUSION

This article presented seed sovereignty as a political materialization of ontologies of south-western Colombia, which are informed by IAK and the materialization of an ancestral mission of the territory. With the help of a field work trip involving conversational circles (Kovach, 2009), semi-structured and unstructured interviews, as well as a Political Ontology analysis (Blaser, 2003; Escobar, 2015; Gutiérrez, 2016), the ontologies of seed savers were connected to IAK as an emancipatory and unifying element that enriches the pluriversum. In addition, such ontologies were shown to be diverse, as they sometimes included elements from narratives or life projects such as Buen Vivir or catholic values.

The embodiment of the ancestral mission assigned and accepted in the territory of Nariño, as seed guardians and savers, was shown to be a mechanism through which the ontologies of Campesinos, Indigenous and other people in Nariño, have become unified. As the quest for seed sovereignty in Colombia faces the challenges of a divided and fragmented agroecology movement (M. A. Altieri & Nicholls, 2019), a way out of such divisions could be a search for unification through the alignment of ancestral mission, which has been proven to be a shared concept for other peoples and Indigenous communities (Monje Carvajal, 2015). Furthermore, if seed sovereignty is understood also as a political quest to protect ontologies, the case of the SGN and other savers of Nariño can be a guiding of example of unifying ontologies that

have managed to create a political advocacy strategy to protect nature-cultures (Coombe & Jefferson, 2021) and agrobiodiversity (M. Altieri, 2009; Lokhandwala, 2022).

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REVEALING (REVELING IN) WILDNESS

Artists Walking in Napeague

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ABSTRACT

Since Fall 2023, I have been walking in the diverse landscapes of Napeague, a low-lying area where the Peconic Estuary meets the Atlantic Ocean on New York's Long Island. As part of the collective ONE LANDSCAPE, I am collaborating with painters, photographers, sound artists, cartographers, and choreographers in creative practices that reveal – and revel in – hidden aspects of a wild and fragile ecosystem that many value solely as "prime real estate." To walk in Napeague is to observe, experience, and participate in a seascape in constant transition. Napeague means "land overflowing with water," and that interplay of water and land has formed and re-formed the region for eons, beginning with the long, slow melt of the glacier that first formed Long Island. A beach is not so much a place as a condition, the land an amalgam of elements ground by the water's lapping and pounding. Impermanence defines Napeague, even as human residents build homes they believe are solid and will endure. ONE LANDSCAPE, as the name implies, provokes us to see this profoundly beautiful coastal region not as parcels of property but as an ecological whole. Over a series of residencies, the artists involved have developed practices and processes in response to and in participation with Napeague's wildest places, beaches, wetlands, forests, and dunes. No matter their medium, all the artists embrace the methodologies of walking art -- attentive, embodied engagement with the environment – as a means toward a nuanced, holistic vision of the region. My presentation highlights the various roles walking plays in our ongoing collaborative process – as a form of artistic field research; as locus for conversation and fertile cross-pollinations; and, through score-guided community tours and performative rituals, as its own distinct art form.

ARTISTS WALKING IN NAPEAGUE

Near the far eastern end of Long Island, 112 miles east of New York City, lies Napeague. In Algonguin – the language of the region's indigenous peoples – the word means land overflowing with water. Napeague is a diverse ecosystem of wetlands, dunes, bays and inlets, forests, marshes, and mucky woodland swamps, and the long sand beach where this fringe of the continent meets the Atlantic Ocean.

Figure 1

Napeague, Map by Margie Ruddick Landscape Design, 2024

Figure 2

Napeague Wetlands

I was invited to walk in Napeague by ONE LANDSCAPE, an organization founded by landscape architect Margie Ruddick, committed to safeguarding wild places under threat.

For ONE LANDSCAPE, conservation is a creative act. And with that in mind, ONE LANDSCAPE invited a group of artists (choreographer Constantine Baecher, painter Vicky Colombet, sound artist Cal Fish, painter Cecil Howell, photographer Tanya Marcuse, mixed-media artist Becca Rodriguez, dancer Rebecca Walden, and me, writer and walking artist) to immerse ourselves with the diverse landscapes of Napeague, and to experience them as an ecological whole. We then responded to our experiences, through our diverse media (a word I use intentionally – because what we are hoping to do is to be mediators between these places we come to know closely and intimately and our audience, so they too can feel a connection).

Figure 3

Napeague Collective artists.

Clockwise from top left: Cecil Howell, Ann de Forest, Vicky Colombet, Becca Rodriguez, Cal Fish, Rebecca Walden, Constantine Baecher, Tanya Marcuse

My own medium is writing, tied to a walking practice that is slow, observational, and open to the serendipitous. I walk and I write to see what unfolds: both are means of developing an intimate relationship with the wild, deep, vital essence of a place. I believe our relationships with places are similar to our relationships with other people. Questions that guide my work both as a walker and as a writer, are: Can we know and care about a place as deeply as we do a friend or loved one? Can that relationship be reciprocal?

What follows is a sampling of the collective's work, much of it still work in progress, all of which originated in walking the varied landscapes of Napeague.

A WALK OF CONTRASTS

We walked together in Beach Hampton, a place of contrasts. Originally a resort community laid out at the turn of the last century, Beach Hampton was almost completely wiped out in the Great New England Hurricane of 1938, and later rebuilt. It survives in linear lanes, with a few of the original homes scattered along them, expanded and modified to accommodate contemporary tastes, as well as new homes.

This is prime real estate – multi-million-dollar summer homes for the affluent, –reveal property owners' paradoxical need for showy grandeur and privacy. Between houses and road, the vegetation, unruly, textured, and multi-colored in mid-autumn, wilds those straight edges. I'm drawn to the contrast and pay close attention to what I call the seams – where two substances abut or sometimes mingle.

Figure 4

Beach Hampton driveway

My first time walking in Beach Hampton, in fall, the intermittent rain, the fleet dark clouds that gather, then thin, then gather again as the wind herds them east, blowing sand over the asphalt, remind us that everything, not just us walkers, is in motion, headed to some destination not yet determined.

Figure 5

Beach Hampton intersection

Viewed from that perspective, homeowners' attempts to control and "beautify" their plots, to impose permanence, in this place where wild nature spills over –under the threat of flooding and ever more devastating hurricanes, seem absurd.

But one Beach Hampton owner has embraced the wildness. Giraffic Park is a designated wetland in a side yard populated with fanciful sculptures of giraffes made of wood and trash pickings.

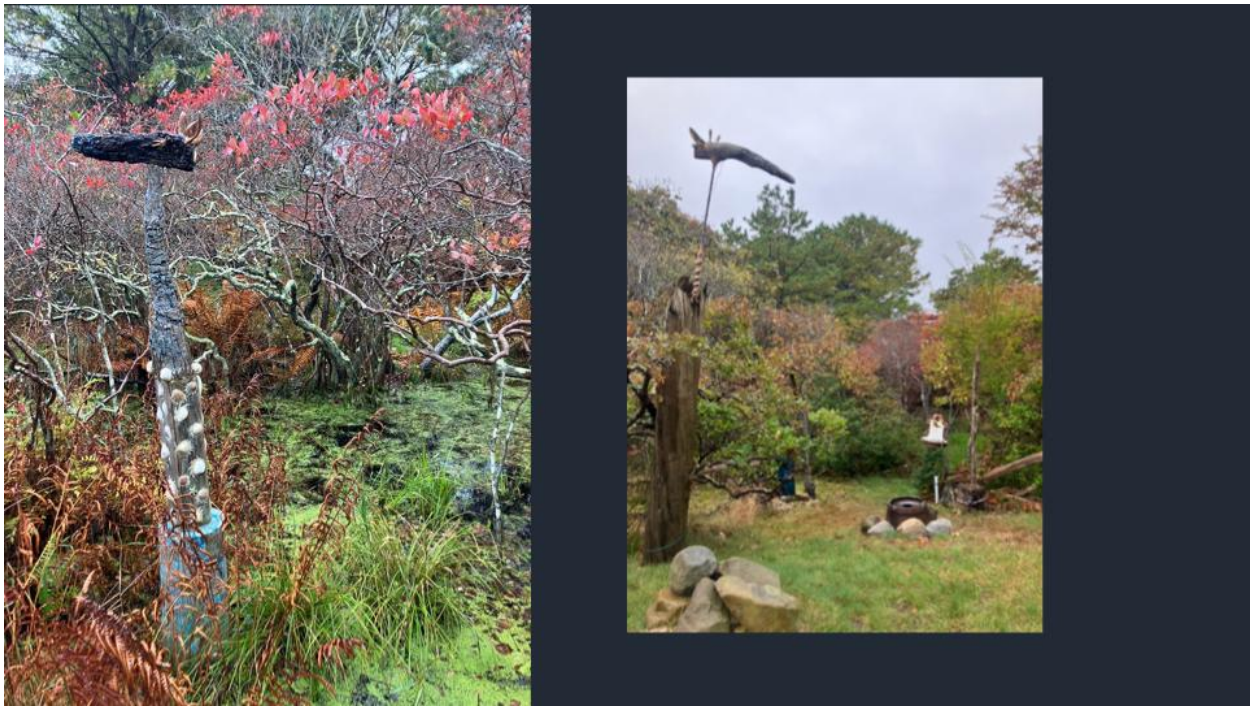

Figure 6

Giraffic Park

The town tried to cite the owner, artist Gus Szabo, for disturbing the natural ecology with his art. Instead, after paying a fine, he transformed the space into a community park where local children, including One Landscape's Green Squad, can deeply engage with the region's unique, fragile ecology and biodiversity and the forces that threaten it. When a group of us ran into Gus on one of our walks, he was obsessing about hurricanes. He pointed to the water that flows through his property, and said, "There's nothing underneath."

The geology of Long Island is fascinating, and one aspect of Long Island geology is that it has no bedrock. This water that pools through Gus' yard and sometimes spills over his boardwalk bridges is the Atlantic Ocean itself, seeping up from underground.

Leaving Giraffic Park after talking to Gus, we walked attuned to the ocean right underneath us. A few blocks away we spotted a fist-sized hole in a driveway, into which someone had stuck a pink flag, officially delineating it as a wetland. Sound artist Cal Fish recorded the burbling sound, and Becca Rodriguez honored it with a sketch.

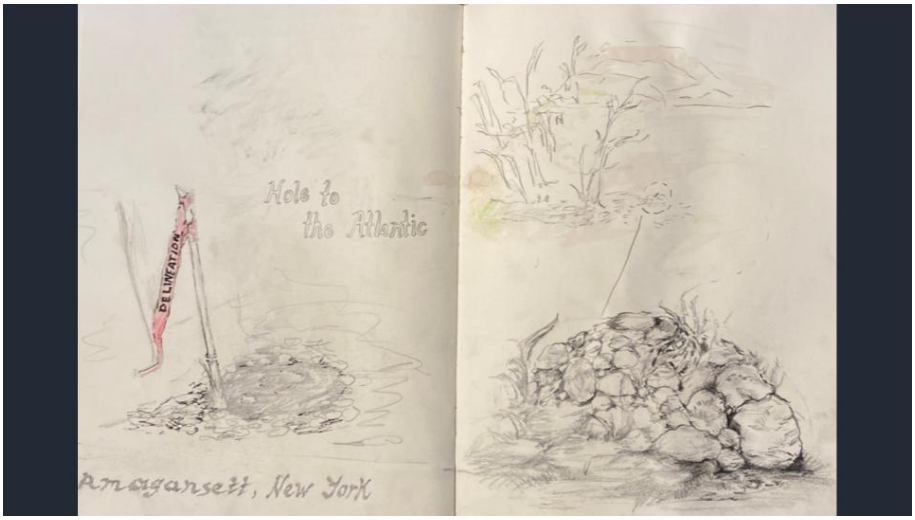

Figure 7

Hole to the Atlantic. Illustration by Rebecca Rodriguez

A WALK OF INTERROGATING FENCES

Walking in Napeague I was attuned to various borders, edges, and barricades, intrigued by juxtapositions and transitions. That led me to develop scores to guide walks in Napeague (and elsewhere). the other artists in some guided walks with a score. Here is one, with my own photographs interrogating the various fences we encountered over my several explorations in Napeague:

Walk until you reach a fence or barricade.

Figure 8

Public Park/Private Home, Springs, NY

What is the fence made of?

Touch the fence as you continue walking along it.

What is the fence's purpose?

Does it protect or defend?

Include or exclude?

Figure 9

Municipal Land off Cranberry Bog Road, Napeague, NY, 2023

Who or what is it keeping out?

Who or what is it keeping in?

Figure 10

Napeague Bay, 2023

What is on the other side?

How is the other side different from your side?

Keep walking…

Figure 11

Bayfront properties, Springs, NY, 2023

How does the fence make you feel?

What is your first emotional response?

Why?

Does the fence remind you of other fences you've known or encountered?

Figure 12

Amagansett Dunes, 2024

Keep walking

A WALK BETWEEN DEVASTATION AND RENEWAL

Swamps and cranberry bogs and forests of mostly oak and pitch pine occupy the narrow inland between the bay of Napeague Harbor and the Atlantic Ocean is a part of Napeague State Park known as Promised Land. Despite its name, Promised Land begins as an unpromising place.

Ominous signs at the trailhead from the NY State Department of Environmental Conservation warn of the dangers of ticks and the devastation caused by the Southern Pine Beetle. The beetles have devoured the pitch pines and turned the forests of Long Island into graveyards, for both trees and the insects who feast on them. The only way to kill the beetles is to cut down the pines.

Painter Vicky Colombet and I embark on what I describe later as a Dante-esque walk, through a Hell forest of ghostly grey trees, into a purgatorial passage of thorn-leafed green oak, and then released into light and water, and an expansive view of Napeague Bay. I annotated the map we picked up at the trailhead with a narration of our journey.

Figure 13

New York State Department of Conservation, Promised Land Trail map. Annotated by the author

Confronting death in the forest had a profound impact on both of us. We were both shaken by the dead trees scattered and heaped throughout the forest. A cloud of mosquitoes hovered over Vicky and attacked her from all sides as we walked. She was the one who labeled this trail Hell. Though she also said, “Man is the creature who causes the most harm.”

But there were signs of life even in the dying forest. This wounded and devastated place refuses to die. In the graveyard of pitch pine, green oak saplings are sprouting.

Figure 14

Promised Land Trail

Back in her studio months later, inspired by walking, Vicky continued in a spirit of play and experiment, drawing on canvas, “a dialogue between painting and drawing, incorporating drawing into a painting format.” Walking inspired her to blur the boundaries of her medium and her accustomed way of working and brought a sense of immediacy to her work. She is also in the process of creating diptychs that juxtapose her abstract images with phrases and sentences excerpted from my written narratives.

NO TRESPASSING

Not far from Promised Land is an abandoned Fish Factory. Just a couple of days before, a friend was talking about how he always views No Trespassing signs as an invitation. And now here we are, Margie, Maddy, her 3-year-old granddaughter, and I walking past those stern words through a breach in the makeshift fence onto the ruins of the former fish processing plant.

Figure 15

Fish Factory

Margie remembers days as a child when the stench of fish filled the summer air, wafting even down to their beach. There is no particular path to follow. The plant’s footprint is a vast collage of cracked pavement, old rail ties, and we cross those surfaces haphazardly, as if the wind is blowing us, toward the raucous water. This space once determined by its very specific function

is now setting for a riotous fiesta of wildflowers, shells, prickly pear, a dead gull. A cricket leaps high, startled by our steps. Maddy picks periwinkle thistles so delicate they have no sting.

Figure 16

Fish Factory

We go down all the way to the water. Cormorants perched on the pilings fly off as we approach. This pebbly strip where water meets land presents another array of manmade materials no longer useful, corroded pipes, nuts and bolts, dissolving into beach – which is not so much a place as condition, an amalgam of elements ground to finer and finer bits by the sea's steady lapping and pounding.

Figure 17

Fish Factory

On the way back, we find a treasure, a nautilus or conch shell dotted with barnacles, a totem of hospitality? In any case, I give it to Maddy, who clutches it as the day's souvenir.

Figure 18

Hospitable seashell

When I get home, I write down this sentence – Ruin hosts the best parties.

MOVING THROUGH WATER

How did other One Landscape artists in the collective seek out, engage with and respond to Napeague's wild places?

Photographer Tanya Marcuse set out at different times of day to engage with the swamps and cranberry bogs north of the Atlantic dunes and south of Napeague Harbor. Hers is immersive work, where walking is essential to her process, either to scout locations or to move through the water in high hip waders. She doesn't just take a picture, she interacts with the landscape, playfully and dynamically, using fog machines, strobes and colored lights, "interventions" that reveal hidden wildness – and revel in that wildness too.

Figure 19

Napeague Swamp

Choreographer Constantine Baecher found in the currents running in competing directions, and the interplay of light on the shallow water a basis for a dance. And he and dancer Rebecca Walden were captivated by the stillnesses as well, the mirroring of water and land, the play of shadows and reflections. These moments that were then translated into movements as the unfinished dance developed and then refined into a dance called Water Work, in which Rebecca embodied the tidal shifts and stillnesses of Napeague.

Figure 20

Lazy Point. Photograph by Constantine Baecher, 2024

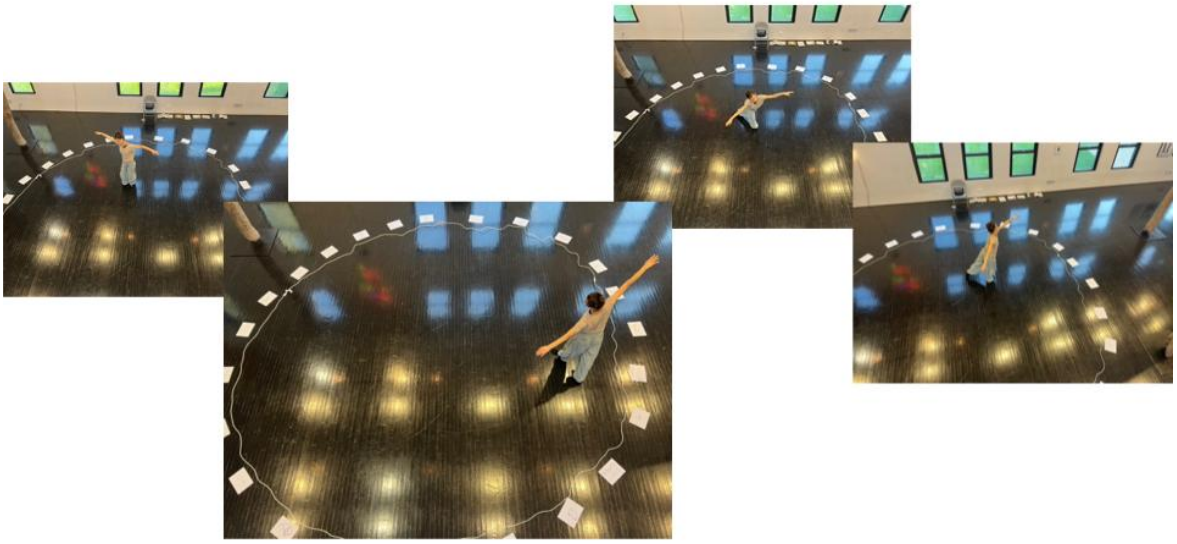

Figure 21

Rebecca Walden, rehearsing Water Work, Water Mill Center, NY. Photograph by Constantine Baecher, 2024

Cecil Howell's densely layered paintings are made, like the beach itself, through a process of accretion and erasure. She's also a landscape architect by training and wanted to shift from that practice's big picture approach to make "very close up drawings of moments on the beach moments that you would never record in any data driven way."

Figure 22

A thing more than it was and Outwash Plains. Paintings by Cecil Howell, 2024

“The beach has so many landforms in it,” she said. “I’m kind of curious of getting that feeling of looking at the ground in such a way that it’s slightly unrecognizable. I’m trying to get at the fragility of life, with one breath it can be swept away.”

Vicky Colombet and I walked together several times, and I sent her narratives of our walks, which she’s incorporating into paintings like this, where she’s expressing the sense of being underwater.

Figure 23

Water and Light. Painting by Vicky Colombet, 2024

Along with her own memories and visual notes, she responds to individual words and phrases in my walk narratives. “A word like ‘glistening” a word like ‘falling,’ a word like ‘balancing’,” she told me, “gives me images for possible paintings.”

FOLLOWING TRACKS

The places of Napeague invite and encourage play, and I’ve been experimenting with how to write about walking as a witness to place. This piece exists in the “in betweenness” of poetry and prose:

Walking at Lazy Point

Cracked asphalt on the path. White-yellow flowers whose name I do not know bloom

amidst scrub pines and tall grass.

In the sand, parallel tracks -- hooves and treads

Dainty hooves – two cloven impressions like an open flower, a cracked mussel

or a broken heart.

Wide tire treads -- striped straight, sand ridges form between deep ruts, rubbers’ gripping pattern

On foot, after the fact, I follow the traces of deer and truck, who moved parallel in space but not in time.

As I do now.

We co-exist as records on the sand.

Figure 24
Walking at Lazy Point

The tide has risen since truck's passing. The tire tracks vanish into the shallow bay, though one wheel's impression remains visible under the transparent water, and that becomes my chosen path. Shell-scratched sand scrapes my bare soles, soften to slurry, which swallows my feet as I splash through.

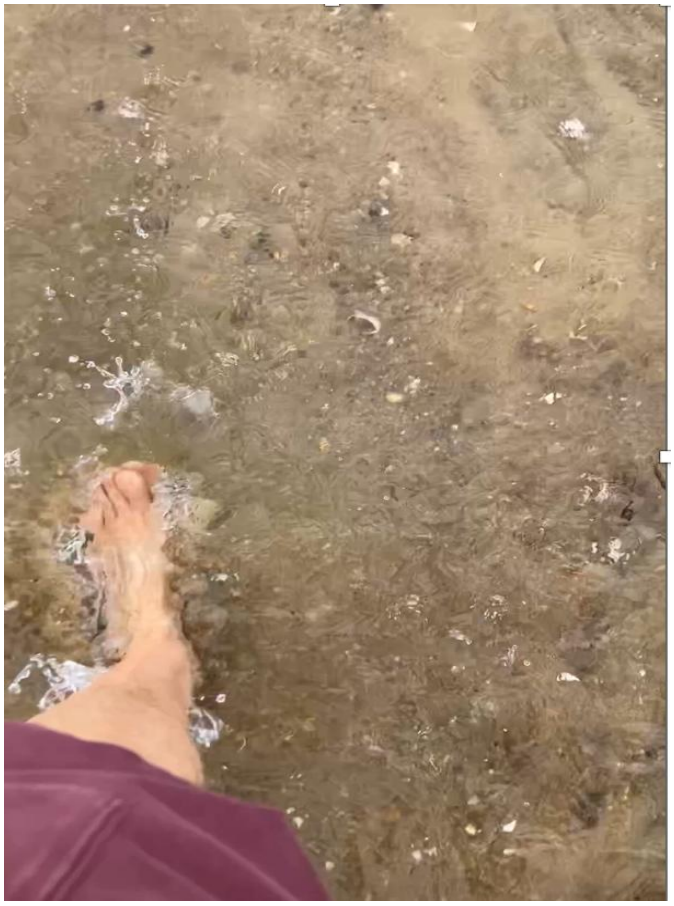

Figure 25

Walking at Lazy Point (video)

Tiny transparencies flick fast as I advance, ephemeral as shadows – shimmery fish, finger-sized, the color of sand. Water come from under and above. The seeming solid ground is hardly firm. As my ankles disappear I suddenly remember my primal fear of quicksand. But feel no panic.

This sinking is a yielding.

Grasses and low pine branches, wavelets and sand, thick blue-black clouds, and even the curves etched in the dried gray driftwood bend in submission to the wind's forming.

Tide keeps coming in. I retrace my steps, some already washed clear. Truck's ruts remain.

For a time.

REVELING IN WILDNESS

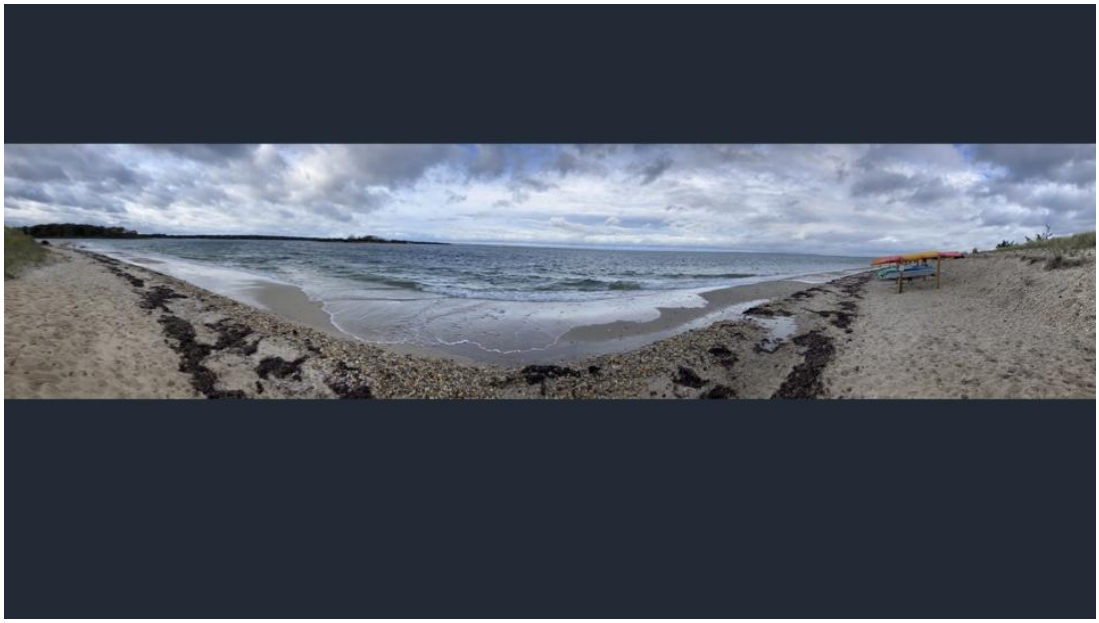

Figure 26

Louse Point panorama

Getting to know Napeague as a dynamic ecosystem in the company of other artists has changed my view of the Atlantic, and of this tender, tentative land – part of an archipelago which geologists call the Outer Lands. And the more ecological engagement I do, the more I believe that this is where our attention needs to go. On what's real, what's lasting. To walk as if we are the least significant beings around us.

Figure 27

Napeague Bay

One Landscape hopes that our multiple perspectives and creative responses as artists will shift – or I should say, widen – others' human-centric perception, to recognize the wildness in us that we share with the land and water and other beings around us, to help others look at this beautiful, fragile place as an integrated whole and not as just parcels of real estate. Because that perspective is our only hope for a sustainable future in which all species flourish.

Anytime you walk, you bring with you memories of other places you have walked through. Now embodied in you, these place memories infuse the new landscape. One thing I brought to Napeague was a word in another language. This is what I wrote:

Bagnasciuga

The Italians have a word for the strip of beach where waves lap over sand and then retreat: *bagnasciuga*. Two verbs – *bagnare*, to wet; *asciugare*, to dry – melded to form an evocative noun.

When I first discovered this word, on the Ionian coast of Calabria, the instep of the Italian peninsula, an American woman tried to pierce my enchantment: "It just means the wet/dry place," she said. She didn't understand the shared "a," which binds two opposites into a singularity, she didn't note the action inherent in the verbs. And she must not have heard the music of the melding – *bagnasciuga* (banyashooga).

On the beach at Napeague, at the edge of a different continent, I walk on the moist sand and let the water wash over my feet and, recalling the word, whisper in Italian as I follow the rippling lines the waves incise:

bagnasciuga bagnasciuga bagnasciuga bagnasciuga bagnasciuga bagnasciuga bagnasciuga

until the sound becomes an incantation, an evocation, becomes the sound itself of water meeting land, of ceaseless encounter, of beach as a place that is always in between two elements, is always in a state of being made and unmade, of inscription and erasure.

Figure 28

Amagansett Beach

SLOW SCIENCE WORKSHOP

Expressing poetic correspondences

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In today's societies, where industrial structures determine the pace of life, people are constantly exposed to time poverty. Time poverty is a vicious circle, where the lack of time leads to a spiralling need to be faster in order to make time, which in turn deepens the state on both personal and collective levels. Research has shown that time poverty leads to not only tiredness but superficial engagement and processing of knowledge, among other issues (e.g. Hyde et al., 2020; Oh et al., 2016). Some might experience this as a lack of depth in our relationships with each other (Roeland, 2023), while leading up to extractivist approaches and exhaustion of the Earth (Chaudhary, 2024).

Resistance to the ever-accelerating modern culture has been expressed through a variety of social movements in the name of slowness, increasingly and with different focal points since the start of the first slow movement, Slow Food, in 1986 (van Bommel & Spicer, 2011). As contemporary philosopher Isabelle Stengers (2018, p. 104) articulates: "slow, today, designates all those social movements that endeavor to escape what has been put forward in the name of efficiency, and discover that in this name many relations have been cut or destroyed, to be replaced by divisions and oppositions between contractionary interests." Slow science is one of the slow movements that do not share an organizational structure but are active in their attempts to remake social practice, in this case science, from the ways that the demand to move fast forward has done it an injustice.

> …I would characterise slow science as the demanding operation that would reclaim the art of dealing with, and learning from, what scientists too often consider messy, that is, what escapes general, so-called objective, categories. (Stengers, 2018, p. 120)

In addition to being inspired by the reclaiming operation of the slow movements and joining this with slow science, we were curious about the responses that people, in this case the participants of the SuMu symposium, may have to the matter of fast-paced society. We wanted to know how they feel about it, make a space for expression, and, as we knew them to be scientists themselves, we thought it would be fun to try out a method of slow science to experiment with, and to develop into further use.

Slowing down is often linked with pausing, reflecting, and creating a safe space for identifying one's needs and desires. This is important, especially since time and the use of it are not divided equally (Hersey, 2024; Hyde et al., 2020). Tricia Hersey (2024, p. 121), who has framed rest as resistance, writes: "It's about more than naps and is a full-on pushback and political statement against the systems that want to see us constantly moving, doing, and going in a frenzy". Slowing down has also been explored relationally, for example, from the perspectives of sensitivity and fragility, paying attention to the intertwined relationships of different agencies and their assemblages (Jutila et al., 2024).

Slow science points out the symbiosis between science and technical-industrial innovation that has developed into a relation of capture in which the scientist in service of the capitalist system (Stengers, 2018). Similar limitative power predefining knowledge can be found on the ontological and epistemological levels, foundational for science, in the demand of 'justification' which in the field traditionally (and still dominantly) requires proof of knowledge, as words, numbers, and logics, in contrast to the dynamic, living, embodied, sensual, and untamed (see Barone & Eisner, 2012; Ulmer, 2017).

Like many phenomenologists and researchers in support of non-representational and more-than-human methodologies (e.g. Rantala et al., 2024; Vannini, 2025), we have come to appreciate the role of 'experience' and 'encounter' at the core of understanding and thus are compelled to explore their transmission into words. In our workshop, we hosted a poetic exercise. The method uses a constellation of words to depict an experience, but our focus was on the 'correspondence' of ideas between the film, the audience, the personal, and the collectively shared.

We started by watching an experimental film *Requiem for growth* by the HIDAS art collective[3]. **HIDAS art collective** studies time, change and identity by making films, photography, music and audiovisual installations. In their work, they engage with slowness also methodologically in their choices of production. The film in question has been shot on 16 mm film using a photogram technique, where various objects such as pieces of equipment, plants, soil and printed material are placed directly on film and exposed manually.

[3] Explore the works of HIDAS art collective: HIDAS – Taiteilijaryhmä H I D A S

The duration of the workshop was 30-40 minutes. (Note: an hour would be more ideal!)

Figure 1

Slow Science Workshop. Photograph by Emily Höckert

The idea of endless growth has been a religion-like concept in our societies for over a century. The experimental film "Requiem for Growth" is a kind of funeral for the idea of endless growth. The film explores and reflects on thoughts and feelings related to the end of growth, destruction and the construction of the new before and after the tipping point.
Hannu Nieminen, HIDAS art collective

Film 'Requiem for Growth' by HIDAS art collective.
Available in: Requiem for Growth – HIDAS. Concept, visual and edit: Hannu Nieminen. Film exposures: Timo Jansson. A HIDAS production 2022.

After the screening (6:53 minutes), we continued to work individually with the experiences evoked by the film. We handed out a selection of newspapers and magazines. Everyone also got a piece of blank paper, scissors, and a glue stick. The instruction was to choose 6-16 words to cut out from the newspapers to organize on one's own blank paper.

Why the choice of poetics to explore correspondence?

Poems are constellations of words, but poetry is also a practice that offers a very particular form in which to interpret and represent (human) experience and should not be viewed simply as another writing template (Leavy, 2020). Poems have the ability to escape and flood over the preassigned form of sentences, leaving space for knowing that might well not fit into their frames. Importantly, as we claimed at the beginning of the workshop, there is no need to be a poet to experiment with poetic expression! We quoted a favorite poet (and a Black feminist icon) Audre Lorde, who says that poetry is not a luxury, but a vital necessity for survival and change. Learning from Lorde (1984, p. 36), this is poetry as illumination, for it is through poetry that we give name to those ideas which are, until the poem, formless, about to be birthed, but already felt. Lorde directs her empowering message of the use of poetry especially to

those marginalized by the mainstream language and discourses, as she believes poetry can transform suppressed experiences into hope and action.

What makes the use of poetics exceptional for research purposes is precisely that poetic inquiry is sensitive to the non-verbal, the intuitive. According to Patricia Leavy, author of various method books for arts-based research, poems are highly attentive to space, which includes breath and pauses, using words sparsely in order to paint what she terms 'a feeling-picture'. As she describes (2020, p. 85): "poems use words, rhythm, and space to create sensory scenes where meaning emerges from the construction of both language and its absence". The film we screened did not include words despite the title. We also didn't share the short description, kindly shared to us by Hannu Nieminen from the HIDAS collective, before the screening, to avoid giving any substantive cues for the experience. There was no need for the experiences to be similar.

After the private period of working (20 minutes, note: ideally this would be at least 30 minutes), some of the poems were shared out loud. This was a powerful moment. From what we have experienced before with the method, poetic expression often surprises even the one responsible for its constellation. Sharing the experience with the poetic method includes a sense of vulnerability from the one expressing, and togetherness, that is evoked by the others listening, some even holding their breath, silently weaving a safety net for the words to land.

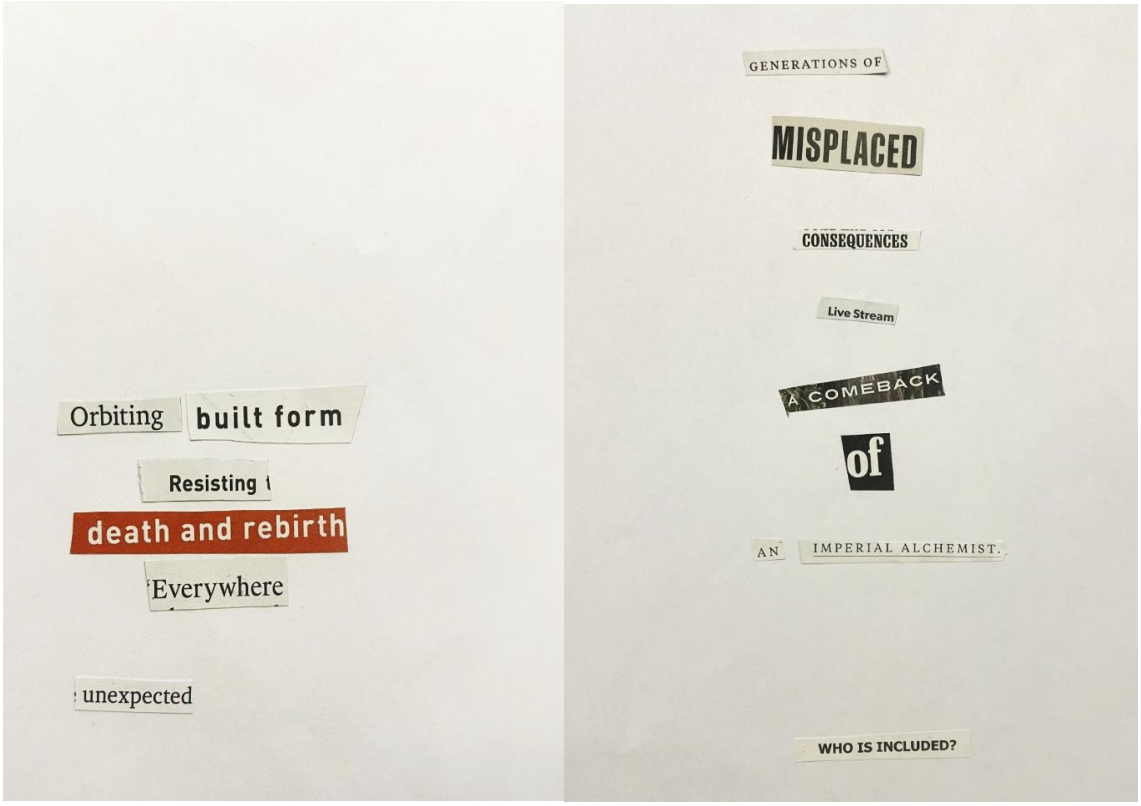

Figure 2

Poems created during the workshop. Photograph by Anna-Emilia Haapakoski

We concluded the workshop by discussing the potential of evocative artistic methods to offer new insights into multilayered socio-ecological relationships. We were happy to receive questions on how to apply the poetic method further. Many of the participants working as university teachers and lecturers, like us, found the exercise to be a creative add to the classroom. For slow science, poetry works well as it offers a format for the thought to transcend common timelines and to engage with the unexpected.

As the SuMu symposium focused on sustainable naturecultures and inclusive multispecies futures, we of course considered the possible benefits of the method for the benefit of more-than-human understanding. If we think of correspondence as a way of exploring and arranging reciprocity in multispecies relations, we might find it a useful notion. We might become more careful, considerate and creative in translating worlds into language. We might want to rethink the metrics with which we assert value and meaning to things, to each other, and ponder upon the actual possibilities of creating common ground – like in correspondence between states. It has to be even more nuanced in an 'naturecultural', or 'multispecies' setting where only humans use words to begin with. While poetic inquiry still utilizes the element of words, it takes a bottom-up approach in the use of language as it taps into and prioritizes the moment that precedes words.

To conclude, we enjoyed the workshop and hope it sparked inspiration for action (of some kind) – perhaps it is a series of naps or a poem. We hope it also offered a fine start to the three symposium days of togetherness to follow. Here we would like to leave you with words of one of the poets who inspires us to continue the work of slowness, Tricia Hersey:

> The work is to first gain deep awareness that the pace at which this culture is functioning is not normal or sustainable. This understanding offers an invitation for the collective pilgrimage we are on as we attempt to disrupt and push back against a system that has no pause button. Stay here for a while. Stay in the space of knowing that you are not a failure, inadequate or unworthy because you are tired and want to rest. (Hersey, 2024, p. 67)

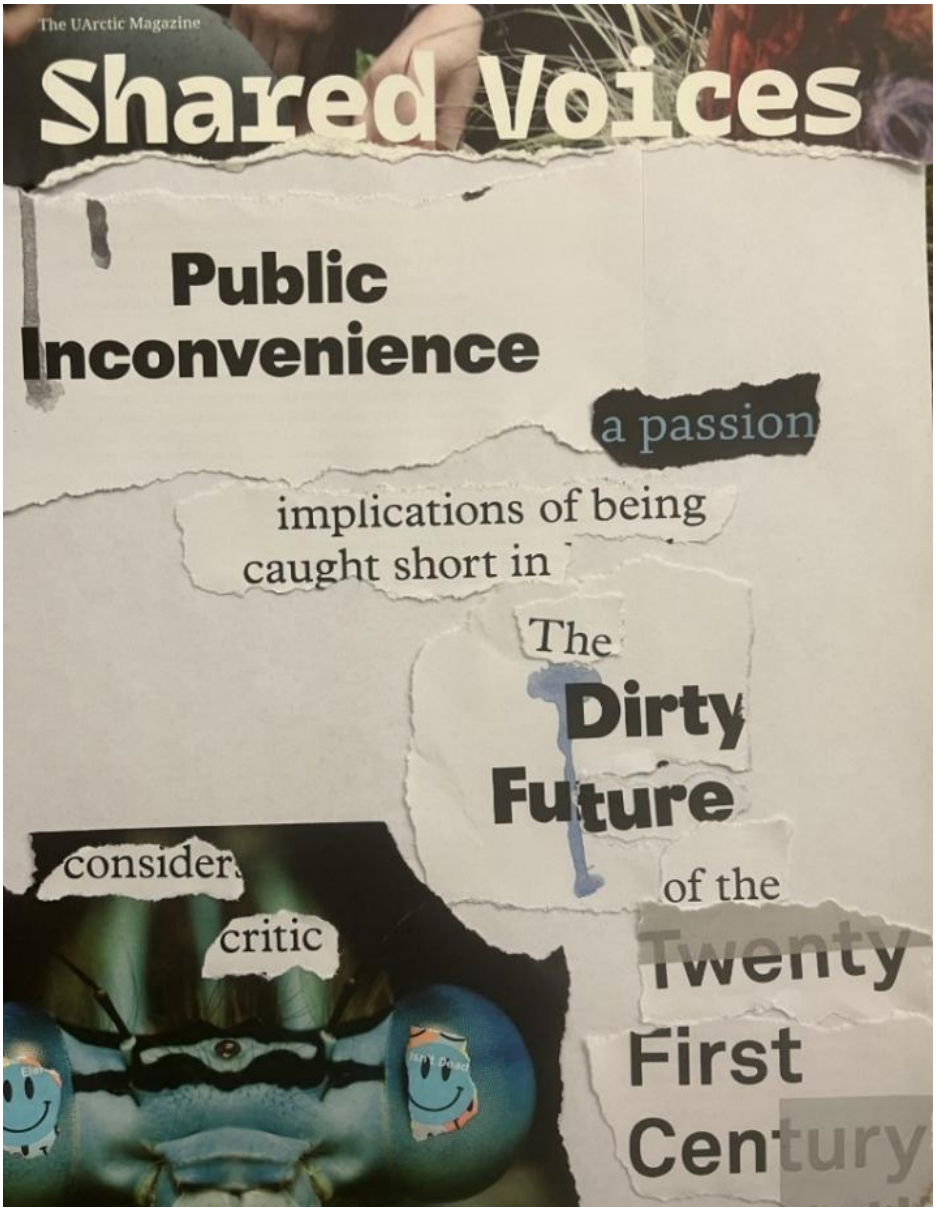

Figure 3

A poem from the workshop. Photograph by Anna-Emilia Haapakoski

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‘BRAKUN LINNUT’

Nature, science and street art project to transform the cityscape with local youth

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ABSTRACT

Here, we present a project where scientific knowledge on how we aesthetically appreciate nature was combined with street art practices to create workshops where local youth and children participated in the design and transformation of the cityscape with bird and conservation-themed art. This is a small-scale local project which took place in Helsinki in 2024 as a collaboration of a scientist, a street artist, and a mural painter. The aims of the project were: 1) To transform the urban area to have more signs of young people’s and children’s presence and bird species to create a connection to and to appreciate nature, 2) To organise participatory workshops where local young people and families got to participate in the creation of bird-themed street art while learning about the species. The youth learned to design their own birds to be used in street art, learned the process of street art creation, and designed and painted their own electric cabinets into the streetscape in ‘Brahen kenttä’ region, Helsinki. On event day, families used the designs of the young to create more art. Additional workshops were arranged for children taking part in schools’ afternoon activities at Brahe playground: painting the trash bins with bird themes, and expressing their wishes for a larger mural art piece by artist Maikki Rantala. The mural was filled with bright colours

according to the kids' wishes – children's aesthetic can be very different from adults. Also, bird species were chosen based on children's preferences. Overall, 25 pieces of street art transformed the park and streetscape, and gave joy and messaging about the importance of biodiversity to passers-by. This kind of art shows how the urban landscape belongs to multiple users and inhabitants, including diverse human age-groups and non-human species.

BACKGROUND

Societies are dependent on nature's contributions to people for the life-supporting qualities of biodiversity and abiotic environmental qualities such as climate and soil (IPBES, 2019). One of these dependencies is through the aesthetic experiences and observation of nature which are known to give well-being benefits to humans. The Millenium Ecosystem Assessment (2005) and IPBES report on Nature's Contributions to People (Brauman et al., 2019) both list aesthetics as key components of pathways for ecosystem services and benefits to humans. Yet, the Anthropocene has seen accelerating degradation of natural ecosystems due to human actions, and despite the knowledge on how nature provides well-being, this trajectory has not changed thus far. Reversing environmental degradation requires transformative action, which motivates people to change to sustainable lifestyles and to connect more strongly back to nature. Environmental art education and public art are tools that can be used to help people reflect, and understand their impact on the environment, to reflect on the aesthetic experiences that nature gives to us, and to tell about and show appreciation to non-human species (e.g. Ylirisku, 2021; Suominen, 2016; Vervoort et al., 2024). Dense urban areas are some of the landscapes that are most transformed by human actions (IPBES, 2019), and even if they host a multitude of non-human species their presence is not always obvious to people who go about their everyday lives. Attention to them can however be directed, e.g. via art.

Street art, a form of public art, refers to artistic works that are most often on building surfaces or other visible structures. Street art ranges from small stencils, stickers, and tags at street level, to large murals that may last for decades. The art form is cyclic and short-lived or leaves long-lasting images and texts into the streetscape. While street art shares roots with graffiti, it typically aims to provoke thought rather than rejection, and contrary to graffiti, most often involves permission and agreements with property owners and municipal authorities. It has been often used to create more colourful, inspiring streetscapes and neighbourhoods (Guetzkow, 2002; Multanen, 2015; Väisänen, 2021; Wikipedia, 2025).

In Finland, street art plays a role in everyday urban life by enriching the visual environment, fostering interaction, and strengthening communal identity. It can highlight local stories, support public dialogue, and shape the "atmosphere" or sense of a place—a multisensory quality formed through interactions between people, objects, and the environment (Multanen, 2015). When thoughtfully integrated into planning, public art can enhance

inclusion, pride, and a distinctive sense of place. Positive encounters with art can generate a reinforcing cycle of wellbeing within a neighborhood (Multanen, 2015; Väisänen, 2021).

Research on cultural practices emphasise the broader wellbeing impacts of art: wellbeing encompasses experiences, habits, and human rights related to cultural participation (Leppisaari, 2025). Artistic activity can meaningfully support emotional life, mental health, body awareness, and a sense of hope, while addressing loneliness, belonging, and life's meaningfulness (Leppisaari, 2025). Also, some work highlights the political dimensions of public space, arguing that art can expose power structures, norms, and commercial expectations, while also serving as a democratic tool that brings people together (e.g. Eriksson, 2016; Jensen, 2018).

Street art has been used for messaging in nature conservation in a few locations around the world. For example, in New York in the U.S.A., the Audubon Mural Project has thus far created 142 murals with 210 different bird species onto the walls of the urban area - they serve as a reminder of these birds' existence, and especially of those threatened by climate change (National Audubon Society, 2025). In Europe, for instance, the PonDerat mural tells about shearwaters and the protection of these migratory birds in Italy (PonDerat, 2025). Many street art organizations and events that focus on themes like bird conservation typically invite or commission professional artists to create their signature pieces. In our case, we aimed for a more participatory approach, following the way participatory practices have become more common in the Helsinki Metropolitan Region in Finland. Transdisciplinary collaborations are crucial in achieving transformative changes for sustainability, and those bridging scientific, artistic, and local knowledge can be especially meaningful (e.g. Mesa-Jurado et al., 2025).

Within these contexts of environmental change, aesthetics and street art, the '*Brakun linnut*' ('the birds of Brahe') -project functions as an environmental art and co-design initiative, weaving together street art methods, environmental education, science communication, and the participation of youth and children. The project's artistic aims center on redistributing the power of messages in public space and creating a more child- and nature-friendly 'atmosphere' around Brahe sports field and playground in Helsinki, Finland — an area marked by both heavy youth and child presence and social challenges. Past collaborations in the area showed promising improvements in child-friendliness (G-Rex, 2025). By engaging young and children in permitted painting, the project teaches agency, strengthens local identity, and explores relationships to bird species in the urban environment.

PROJECT DESCRIPTION

'Brakun linnut' - birds as a topic

'*Brakun linnut*' in Finnish translates into 'the Birds of Brahe', a reference to the location of '*Brahen kenttä*' in Helsinki. Birds were chosen as the topic of the project as the connections, or lack thereof, of cultural and societal values with ecological significance makes them an excellent topic to discuss people's relations with non-human species. Birds are an indicator species for environmental changes and at the time of the project globally 49 % of their populations were in decline (Gregory et al., 2005; IUCN RedList, 2024).

The aesthetic perceptions that people hold on birds have been shown to impact various nature conservation issues. For instance, we know that aesthetic value predicts bird species presence in wildlife trade (e.g. Senior et al., 2022; Haukka et al., 2025), and supports well-being of people e.g. via observing birds in nature or at feeder sites (Cox & Gaston, 2016; Fisher et al., 2023; White et al., 2023; Deshpande et al., 2024). There are clear differences in what species have, on average, more positive aesthetic values for people (Haukka et al., 2023). Therefore, it is important that people reflect on their aesthetic perceptions of species, on what they appreciate in birds (be it visuals or vocalisations; Santangeli et al., 2023), and understand the ramifications of the perceptions people hold on the beauty of bird species.'

Location

The '*Brahen kenttä*' region in Helsinki is an area where there is a sports field, playground, a local school, restaurants, a theater, gas station and other urban activities. It is also a central location with a lot of passers-by. On the side of vibrant bar and nightlife culture there is also an existing issue in the area with drug use. The nearby blocks are one of the most concentrated drugs dealing and using hotspots in town, and police surveillance has now been increased in the area (e.g. Ikola, 2025; Lapinkangas, 2025).

The project aims to transform the streetscape through art, making it more child-friendly, and marking the urban space belonging to children and nature as well. The goal is to give children something to be proud of and to look at on their way to school, and at the playground so that they pay less attention to the issues on the street that do not belong in the world of children.

There was a mural painting campaign in the Brahe playground, and the surrounding area's electrical cabinets already in 2016 (G-Rex, 2025). Now the worn out, lost and tagged artworks from over the years were to be replaced. This was done with the proven collaboration model with the surface owners, playground personnel, City of Helsinki Sports Services, and a local

school. Helsinki city's education division agreed on collaboration (streetlight and tram control cabinets); likewise other street side cabinet owners (post office and electricity company).

Science-art collaboration

The design of this project started as a dialogue between scientist Anna Haukka and artist Maikki Rantala. They wanted to create nature-themed street art to communicate conservation issues. As Haukka's research is about people-bird interactions, and especially the aesthetic perceptions people have on birds, this was chosen as the topic for the project. Rantala's work varies from large-scale public art commissions to smaller self-organized art interventions in urban space. Community educator and producer Jenni Väisänen supports and collaborates with the artists in their projects. Together, Väisänen and Rantala develop and test community-based methods for large-scale public artworks with different children and residents' groups. The activities of the SAV Art Collective (SAV Taidekollektiivi, 2025) are based on needs-oriented and community-centered art planning and implementation, where the users of the spaces are involved in the process through empathetic design and participatory art. Common ground of the makers of the project was found in activism to influence our surroundings in the city, and what kinds of messages are shown in the urban space. Additionally, there was the benefit of having collaborated before on a smaller participatory art project. There was an established way of working together, giving space to different approaches to the topic (Halme & Tuittila, 2024).

Participation and agency of locals

We provided young people the opportunity to have agency in transforming the streetscape with bird-themed art. They were, at the time, attending the local '*Aleksis Kiven peruskoulu*' school, in a class that has special focus on visual arts. They created the bird figures to be used as the basis of most of the artistic work in the project. Additionally, local families and children were given the opportunity to participate in painting. The idea was to have all the participants get a new kind of relationship to meaning-making in their local urban area, and to provide emotional resonance between the participants, on birds, and attachment to place. (Figure 1.) Paints used throughout the project were environmentally friendly options. Safety of participants, and their clothes, was guaranteed with protective gear and head masks when necessary.

The main workshop process was to engage the youth. We met them several times through the process, and they co-created the art with the scientist, street artists and the school's teachers. The process initiated with background information on the state of bird species, and on how their aesthetic value to humans has been studied. They also received teaching street art and

transforming the urban landscape. Lastly, the project and the art methods to be used were taught to the participants. Their first step was to choose a bird and to sketch and draw it in a way that was usable for cutting a stencil. The prompt for this task included wording that they could choose whichever bird species they wanted to, and could think if there are specific birds they fancy and admire, or specific birds they thought should receive attention. This resulted in a selection of exotic birds (those not native to Finland, but living in e.g. the tropics or ocean shores), and local birds (those that can be easily observed in the close-by environment of the project). Once the drawings were ready, a local laser cutting studio created the stencils to be used for painting.

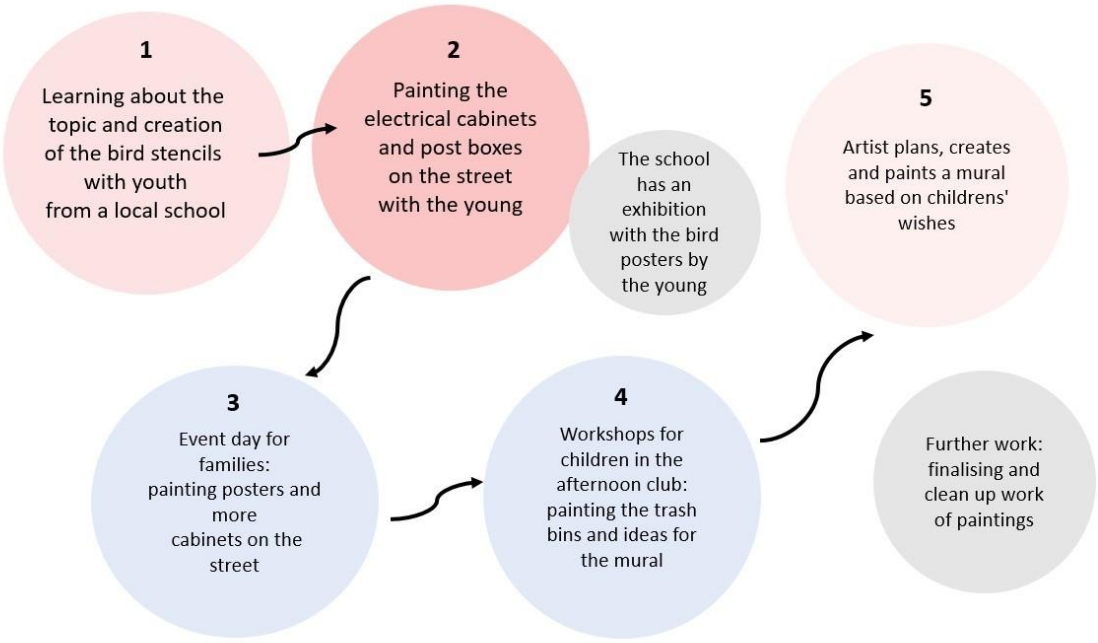

Figure 1

The steps and structure of the participatory street art project

Additionally, we wanted to add conservation-related messaging to the streets. Due to a lack of time, and as suggested by the teachers of the youth, the scientist and artist proposed some pieces of text, and the young voted for which ones they chose to have produced into stencils and to use in their pieces of art. Messages ranged from conservation topics to the meaning of birds in the urban environment.

The second part of the process was to paint the pieces of art on the streets. SAV Arts Collective's artists prepared the cleaning and background colours for the surfaces to be painted, leaving the focus of the work of the young to be that of designing and painting the birds, message texts, and background patterns onto the surfaces. The young worked in groups of 2-4 and the process of painting was facilitated and assisted by the scientist, street artists and the teachers from the school. This allowed us to keep working in the public space of the

streets safe for every group. In total, 10 pieces of street art were produced by youth (Figures 2, 4).

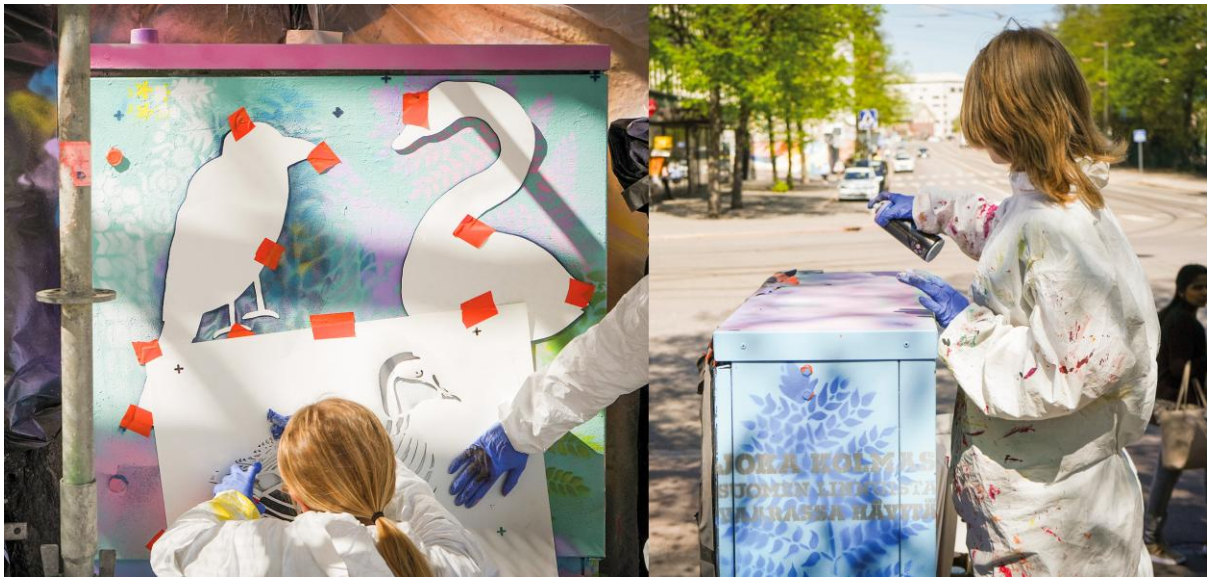

Figure 2

Painting on the streets with the youth[4]

The day of the event in August 2024 was open to families from the area and took place on a Saturday. Anyone could come and take part in using the bird stencils to create a poster to take home, to learn about birds, and to take part in guided painting of more electricity and post cabinets on the streets of the region. Some of the young, who had learned the methods already, took part in the event as assistants and painted further street art on this day (Figure 3).

The Brahe playground's afternoon program serves early-grade pupils. Over 50 children participate daily. The art project fit naturally into the existing activities, and a small exhibition and workshop space was set up where children explored bird species and street art through images and hands-on tasks. A wish to transform and paint trash bins came from the playground staff. About 20 children joined the planning workshops facilitated by a researcher and an artist.

For the mural, children chose preferred colors from sample folders, and the artist mixed matching tones from recycled paints. The mural's location in a sports park inspired the theme "moving birds," leading children to draw imaginative scenes—owls playing basketball, a blue tit running on a track, penguins diving, and more. Their drawings, color charts, and shared

[4] All photographs by Anna Haukka

design materials were displayed throughout the project. The artist painted the mural over three weeks, with children visiting to observe and discuss.

For painting the trash bins, implementation happened in small groups: each child safely practiced spray-painting and used stencils to decorate waste bins, creating four ‘bird bins’.

Figure 3

Workshops for the families and children at the playground

For the mural, children chose preferred colors from sample folders, and the artist mixed matching tones from recycled paints. The mural’s location in a sports park inspired the theme “moving birds,” leading children to draw imaginative scenes—owls playing basketball, a blue tit running on a track, penguins diving, and more. Their drawings, color charts, and shared

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PROJECT OUTCOMES

Street art

In total, there are 20 pieces of art on electricity or post cabinets produced by this project. Four trash bins on the playground and skatepark now have bird images on them, and the park hosts a mural 'City of children and birds' ('*Lasten ja lintujen kaupunki*'). Figures 4-7 show images of the art in the streetscape. Additionally, the participating school had used an arts class of children to draw birds into the school yard with chalk, creating a temporary street art piece. Also, the posters which the young had made - each with their own bird stencil - had been exhibited at the school's end-of-year celebrations.

Figure 4

Bird-themed street art pieces around Brahen kenttä, Helsinki

Figure 5

Trash bins on the playground, painted with the afternoon club's children

Figure 6

The large mural painted by Maikki Rantala and inspired by colour choices and topic wishes by the children

Learning outcomes for young participants

A brief questionnaire was given to the young participants to understand what they learned from the process. The answers showed that the focus of learning was more on street art methods, whilst not as strongly on birds (although some individuals learned a lot about birds). It would be more interesting to measure before-after project change in perceptions on the participants' own agency in transforming the streetscape, and relations to birds - a lesson for

the scientist for future projects. Overall, the workshops were mostly interesting for the participants.

Whilst it is difficult to quantify what the long-term impacts of such participation to the people are, we can speculate that taking part in such a street art activity can be a way to, in part, transform people's ways of living (e.g. Vervoort et al., 2024). An experience of active participation in changing one's environment can lead to taking part again later, or to using the skills of active participation in another context. Meaningful and slow processes give space to create new ways of participating in positive environmental transformations (e.g. Mesa-Jurado et al., 2025).

Dialogues with children and passers-by as part of the project

Throughout the painting weeks, frequent dialogue was held with the children in the afternoon club regarding birds and art. Conversations were also conducted with adults visiting the playground, covering a wide range of everyday topics. Issues such as urination in the playground, as well as smoking, alcohol, and drug use, were addressed constructively with adults when necessary.

Typical comments were received, for example, about the artwork representing a major change or the positive effect of added colour. Colour was consistently noted as something that evokes positive reactions and emotions. It was also observed that the non-commercial, cheerful, and child-oriented nature of the work was appreciated. One child's specific wish for certain bird motifs was fulfilled.

Extensive discussion was also held with visitors in the playground about local bird species and about the large conifer trees, which were identified as Douglas firs. These trees were noted to host flocks of siskins and frequent visits from great spotted woodpeckers. Because painting the mural took place in October, the trees were producing abundant seeds, attracting many birds and squirrels.

LEARNING OUTCOMES FROM THE PROJECT AND FUTURE DIRECTIONS

Overall, this was a successful project in its breadth: the collaborations were easy to build, and all who took part in or enabled the project were keen to make it happen. Based on observations, it was clear that passers-by had mainly had a positive reaction to the art and the way it brought colour and a new kind of aesthetic to the urban landscape. The makers were also told that the mere sight of the birds does, in a way, bring the joy and voices of birds into the city simply by showing them.

On the other hand, the ways in which the participants learned about birds during the making process of art could have been more influential. While this project involved messaging birds and conservation, their meaning to people, and conservation needs, the way the art was produced was not very deeply tied to the place. One future direction would be to create a similar project, but based strongly on observations, stories and a connection to the species in the location where the art is created - enabling, e.g. stronger multispecies approaches to be seen in the visuals created by people (e.g. Ylirisku, 2021). This would enable directions such as multi-species dialogues and, at least, an even stronger attachment of the art to the place and the nature therein.

Figure 7

Messages both on how birds would need more space, and their meaning to people. Translations: 'Lähilinnut meidän ilona' = 'Close-by birds bring us joy' and 'Jättäkää meille linnuille elintilaa!' = 'Leave some space to live for us birds too!'

"We look at this bird art exhibition every day with my son on our way to the daycare!"
- Father who passed by

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GHOST COWS, LEATHER SKIN, MAN MILK

On the Bovine and Queer Men

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Through leather and milk, this study sets out to map queer masculine American entanglements with cattle by thinking in line with these two bovine products, each represented in different social and sexual practices of queer men. Through leather–most notably leathersexuality, an aesthetic that came with its own social ecology among queer men, constructed second skins; and milk–most notably sexual roleplay that trans-feminizes the penis into a fertile udder, transubstantiates semen to milk; queer men disrupt the dominant binaries of man/woman, human/animal, nature/culture, and many more, building for themselves speculative bodily ecologies unrestrained by the worlds they are socialized into.

This research is split into two parts, each exploring the bovine multispecies rhetoric of queer men: a historicization of leathersexuality, with special attention paid to its roots in American pastoralism and the mythologized American "virgin land," itself engrossed in metaphors of bodily penetration, environments inherently entangled in colonialism and empire. This historicization leads to a theorizing of leather culture that challenges the permeability of the membrane of the term "environment," imagining the leather bar itself as home and ecology.

The second part follows pornography that portrays submissive men being milked by cattle milking machines, tracking the rhetorical strands that link these men and their bodies to maternal bovines. This piece asks how imagining kinship and utilizing multi-species language might allow us to disrupt the strands of thought that essentialize heterosexuality as "natural."

Thinking in tune with Donna Haraway's assertion that there can be no nature/culture, only naturecultures, combined and inseparable, this study asks how American cattle naturecultures breed themselves into queer masculine life, building queernaturecultures, and what horizons of potentiality they offer the queer subject, entangled in and playing with a colorful palette of aesthetic and biota. I am grateful for the feedback from the conference, which has greatly informed the paper's development.

GLIMPSING RELATIONALITY IN ACTION

Cultivating a Multispecies Perspective through Passionate Immersion with Photographing

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ABSTRACT

Even standing still we travel at approximately 30,000 km/s as Earth circumambulates Sun. I call this *in-situ* travel. My research follows the seasonal spiral as manifested by the forested lakeshore outside my front door in Rovaniemi, Finland. I frequent this shoreline area daily with the practice of attuning with my surroundings, focusing on and photographing cultural and other-than-human noticings of the day – or night. I consider this a form of passionate immersion, which for me is the practice of being embedded in and attuned with the betweenness of sentient relationality. Along with the focus and framing of photographing, it has led to multispecies encounters and phenomenological insights while attending to the ecocultural rhythms of the high-latitude light-dark-light-dark pendulum. Evidencing the flow of the eight seasons of Lapland has honed my awareness, nurturing insight into the sentience of multispecies' ongoings. It has contributed to multiple dimensions of personal wellbeing and transformation. I have dipped my toe into more sensitive and reverential perspectives of Interbeing, coexistence, and the interdependence of everything. This has helped me to more deeply understand and connect with discourses dealing with multispecies perspectives and has nested my personal ontology in a context of spiritual ecology.

TRAVELLING IN PLACE

My research is a personal account of a multi-year *in-situ* journey along the seasonal spiral as manifested by the forested lakeshore area outside my front door in Rovaniemi, Finland. I have been frequenting this shoreline area daily since a boardwalk was constructed, allowing for ease of public passage alongside and to the lake.

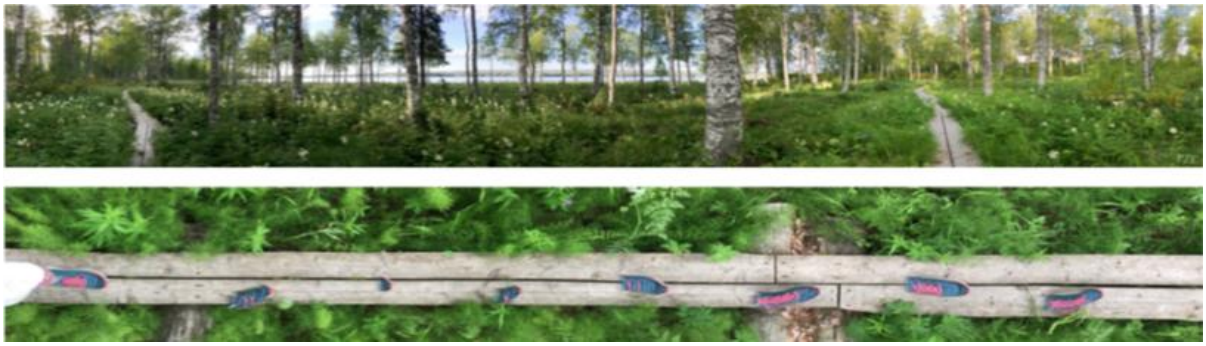

Figure 1

The lakeshore boardwalk

Initially, I was entranced with the beauty of the area and then quickly became intrigued with the rhythm and rapid flow of the ecological and cultural changes that I noticed were tethered to the seasonal spiral. I decided to try to capture the changes in action with my phone camera; my approach to photography that is in-line with Ulrich's (2018) Zen Camera, which acknowledges photography as a way of seeing and learning. Subsequently, photographing cultural and other-than-human noticings of the day – or night – together with the practice of attuning with my surroundings has resulted in a praxis of 'passionate immersion' (vanDooren et al. 2016), which for me is the practice of being embedded in and attuned with the betweenness of multispecies relationality. Here, attunement is resonant with Sweetwater (2025) who describes it as being situational, relational, and vibrational, a practice of intimacy where one becomes permeable and empathic, to listen with all your senses, instinct and intuition to the co-mingling of information flowing *between* one's whole body with the "vibratory intelligence of that which you are listening to" (p. 16).

Figure 2

Ways of attending

Thus, my study is a practice of embodied direct experience, of being embedded in and attuned with the betweenness of multispecies relationality. It employs the 'rubber boots method' (Bubandt 2022) of being attentive on location. It is an example of 'practicing with proximity' (Rantala et al. 2024), that is with physical, emotional, and spiritual closeness. The attentiveness cultivated through presence, noticings, and photographing is an outcome of attuning with 'passionate immersion' of becoming curious and entangled, to be affected and thus care.

As such, my curiosity was kindled by the rapid flow of changes in everything – ground cover, lake surface, water level, forms of precipitation, daily moods of the forest and lake, lighting, sounds, smells, taste, textures, flora, fauna, fungi, and human activities, too. In an attempt to catch the flow of change in action, I began to try to capture the noticings of my daily practice with my phone camera, a ubiquitous yet truly amazing pocket-sized techno-device with seemingly miraculous affordances. I agree with Ulrich (2018, p. 9) that photography can assist "in forging an authentic, resonant relationship with the world around you" and can help "occupy and interact with the present moment."

Figure 3

The Freezing begins

Being able to simultaneously live with stunningly beautiful surroundings in relative safety while living in a city is a privilege of residing in a region of low-population density and a striking specificity of place. The lakeshore path is located in Lapland, which is known for the extremes of its eight seasons, a product of its high-latitude and annual journey around Sun.

By default, as Earthlings we are constantly travelling through space while encircling Sun at about 30000 km/second. Due to the tilt of Earth's axis in relation to Sun, we experience

seasons, which are largely phenology based. They can be wet-dry, the four seasons of Autumn, Winter, Spring and Summer, eight seasons or more, or other depending on which type of season we consider, for instance, cultural seasons, animal seasons, plant, fishing, growing, harvesting, hunting, herding seasons, or seasons of life. There can also be seasons within seasons.

Figure 4

The Eight Seasons of Lapland. Adapted from https://international.rovaniemi.fi/en/8-seasons

As we circumambulate the sun, we are hosted by the seasons and the diverse affordances tethered to them. These rapid changes are, paradoxically, characteristic of this type of what might be called slow travel, which in this case occurs at the speed of the seasonal flow.

Figure 5

Frosty Winter, February Sunset

Following, I offer examples of multilevel, multispecies ecocultural engagement leading to a sublime 'connection with'. My exploration has been a journey of enlightenment, immersion and is phenomenological in nature. It is rooted in real-world experience.

My noticings and insights will be familiar with some readers, especially those who have lived in Arctic conditions. Nevertheless, I would like to share my perspective with a spin around the seasonal spiral of the Arctic patch outside my front door. The photos are my own and have been moderately edited to accentuate the features that call to me:

Figure 6
Ruska (Fin) – the time of autumn colours

Figure 7
Autumn Vibrancy

Colours are vibrant on the ground and all around, for instance, in the sky and reflected on the water. These photos are taken at the same place and time – sitting in a canoe looking left (orange sun), and right (blue, full Harvest Moon).

Figure 8

First Snow Grace

First Snow arrives suddenly or expectedly, usually gracefully, always with anticipation, mostly with relief for the reflective brightness it brings and as a reassurance that winter will come. Will it stay? It usually disappears to return as the subsequent First Snow.

Figure 9

First Snow

Figure 10

The Freezing

Soon after, The Freezing sets in creating a range of spectacular and dynamic ice formations accompanied with unique choruses of sounds. Jingling, jangling, hissing, clinking of surface ice along the shore or the shooting peeeuwing call of ice forming across the lake. How the ice forms is significant for having a 'proper' winter and ensuring its loadbearing capacity for passing over during winter and spring.

Figure 11

Freezing Formations

Kaamos (a beautiful Finnish word) – Polar Night settles on the Arctic Circle with long, lingering colours of peace and harmony, often accompanied with a juxtaposition of take-your-breath-away beauty and breathlessness due to sharp dry air of extreme cold.

Figure 12

Kaamos (Fin) – The Polar Night

Frosty Winter persists, sometimes with cold, dull bleakness, but often with awe-evoking treats of colourful and stunning beauty. For instance, Polar stratospheric 'pearl' clouds, crystalline moonlight sparkles, and sun or moon halos particular to Arctic conditions.

Figure 13

Frosty Winter

Eventually, when Sun repositions overhead and warms the air, snow sublimates, ice dissipates, and swans return as soon as water patches open in the ice, ice fishers continue to sit on the lake until the last possible moment.

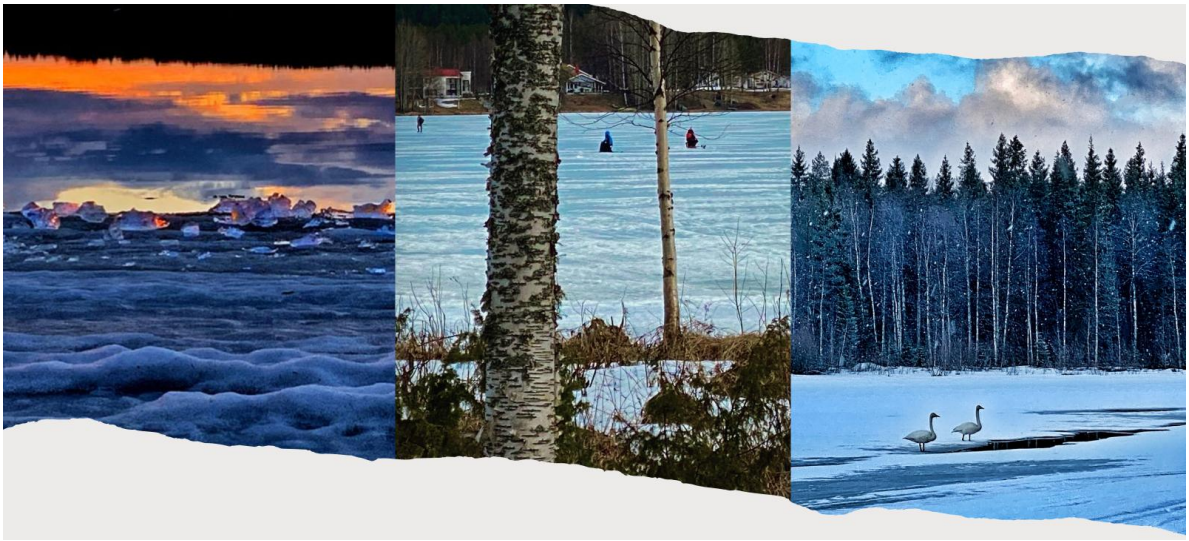

Figure 14
Departure of Ice

Again, we can hear intriguing clinking, jingling, grinding and crashing sounds of moving ice.

Particularly in Big Snow years followed by sudden warm temperatures, floods occur. The photo on the left shows three weeks of spring; on the right, the surreal experience of canoeing through the forest above the boardwalk.

Figure 15
Spring Floods

The water recedes revealing unfurling and flourishing. The universal spirit is ready to present in an infinitude of living forms.

Figure 16

Flourishing

In an instant, everything is greeen, thriving in the long lingering light of Midnight Sun.

Figure 17

Unfurling

Figure 18
Midnight Sun

This activates Boaters and Mosquitoes. Our protein- and nutrient-rich blood offerings for mosquitoes directly embeds us in multispecies relations as blood supports the reproduction of more mosquitoes and thus the production of more food for other beings (including birds, bats, frogs, dragonflies, fish) to feast on. Thus, the circles and cycles of life continue.

Figure 19
Activation

This is accompanied with Midsummer Flower Madness – a joyful succession of tiny delicate-looking but hugely strong, resilient flowers luminous with colour, looking pretty while attracting pollinators – and me! Often, I am drawn to what I refer to as Glances of Beauty, where a momentary sight of splendour graces my attention leaving me wondering whether it is gazing at me or vice versa. I suspect it is both: a relational encounter. Perhaps it is a form of kinning, of kindred intimacy, an opening to sacred permeability, becoming transpersonal, a doorway into 'enlifenment' (see Sweetwater 2025) and 'enlivenment' (see Weber 2019).

Figure 20
MidSummer Flower Succession

Figure 21
Noticing

While attention is also drawn to the in-your-faceness of mosquitoes, which might make them the most noticeable insects, a plethora of wildlife abounds in the form of other insects, bugs, and spiders thriving in and around the forest, lake and shoreline; the more you look, the more you notice.

And this is where my multispecies awareness has largely been awakened, where what might be seen as mundane becomes noticed, recognised as wonder-exuding magnificence. Being curious about what is just beyond vision, I use a wi-fi digital microscope to 'explore the micro world' (as it states on the product package). This exploration has led to many great adventures of discovering (for me) life-on-life along with close-up views of plants. I greet while hoping I am not overly nosey or invasive.

Figure 22

Up-close Explorations

The macro photos below were compiled for the Gifts from the Sentient Forest Project (GSF 2025) exhibition held in Rovaniemi during Summer 2025. I chose to call my contribution The Plurality of Oneness to reflect the diversity of the truly amazing world of flora and fauna, especially when approached at the macro scale. Together they are part of the great interconnectedness, the oneness of being. Here we have the surprising colours and pattern details of the bottom of a ripening Bilberry, the tiny two-eyed spirit living in a Twinflower, and the stunning colours of everyday Fireweed in autumn.

Figure 23

The Plurality of Oneness

Figure 24

Fauna Community

And, of course, larger fauna reside here, too – flying, climbing, swimming, burrowing, hopping, stealthy plodding. This hare is ready for snow, but with the new normal of a

wobbly climate, the snow has not arrived yet, depriving it of one of its superpowers to camouflage in the snow, leaving it noticeable and vulnerable to prey (ermine and foxes live here, too). The squirrel is in harvest mode.

There are many bounties of the lake and forest, including fish, berries and fungi among others harvested by humans and other-than-humans alike.

Figure 25
Gathering Season

Which brings us back to colourful autumn.

Figure 26
Colourful Autumn

I hope this spin along the seasonal spiral, as manifested by the lakeshore habitat on the Arctic Circle of Rovaniemi, has provided you with an insight into my perspective of how the seasons express themselves and my way of nurturing numinous experiences of awe and wonder, witnessing noticings while travelling in-place on an *in-situ* journey of discovery.

This passionate immersion (akin to van Dooren et at. 2016) of attuning with my surroundings with open senses, being embedded in the multispecies enmeshment of relationality, has led to cultivating attentiveness, curiosity and creativity; features that stick with me. Thus, I have experienced an evolution in my personal perspective, perhaps even a transformation; I feel that beyond an intellectual understanding, I have experienced embodied glimpses into multispecies relationality, an insight of Interbeing, of feeling connectedness with everything; of belonging. This has helped me to more deeply understand and connect with discourses dealing with multispecies perspectives and has nested my personal ontology in a context of spiritual ecology, which can be thought of as "…the recognition of the universal spirit that imbues all living things – a recognition that must be embodied through conscious spiritual engagement with Earth." (Vaughan-Lee 2025, p.1). I think there are different ways to reach this perspective. For instance, through a spiritual lens, as in Vaughan-Lee, or from an Indigenous stance, where, as I understand it, the notions of being part of, of animate existence and sentience are embedded in an inherited worldview. Alternatively, I have come from a serendipitous route of curiosity followed by daily immersion, attunement, and photographing.

I hope this offers ideas for engaging with and contributing to sustainable naturecultures and multispecies futures.

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DIVING DEEPER

Environmental change through seal-human relations in South Greenland

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ABSTRACT

During my presentation at the SuMu Symposium, I talked about my fieldwork experience researching seal-human relations through specific practices, such as seal hunting, processing seal products and preparing seal skin in South Greenland. In my research experience, these practices emerged as a useful approach for addressing local observations of environmental changes and their impacts on people and communities. In addition, multispecies relations in seal-related activities are particularly interesting as they shed light on people's necessity to think with other species in the effort to find adaptation strategies to environmental disturbances. While retracing my own fieldwork experience, I reflected on the limitations of research methods centered on words when studying relations and knowledge grounded in feelings, senses, memories, direct participation and presence in the landscape. In this regard, I considered the opportunities and developments that come with including embodied and visual methods, such as guided and commented itineraries and filmmaking, drawing on my personal experience with these two methods.

HUMAN-SEAL RELATIONS IN SOUTH GREENLAND

This PhD research project takes place in a wider and interdisciplinary research project which explores marine pollution and environmental change in the European Arctic, with the goal of co-developing resilience strategies with local and Indigenous communities. More specifically, my research project takes place in three communities in South Greenland, Qaqortoq, Narsaq and Nanortalik, and focuses on the impacts of and adaptation strategies to pollution and climate-derived changes on seal-human relations through specific practices, such as seal-hunting, processing and sharing seal products and preparing and sewing seal skin.

During my first fieldwork visit in South Greenland at the end of August 2024, I realized how seal-human relations offer an interesting perspective on environmental change. In South Greenland, as in other Inuit contexts, seals and seals-related practices are extremely important as they contribute to identities, social relations and a sense of belonging. Their relevance covers various areas, including personal, cultural, social and economic aspects (Peter et al., 2002). Moreover, human-seal relations develop and unfold through practices that require long-standing and close connection with the coast, fjords, islands and open sea. For this reason, seals represent a relevant topic that makes it possible to address environmental changes observed in the coastal environment and in the animals, and in return the impacts of these changes on people's lives, wellbeing, and relations with the landscape. Seal-human relations in seal-related practices also provide an opportunity to better understand how environmental change is locally made sense of, as well as the psychological and social impacts of it, topics on which some authors have identified the need for further research (Ayeb-Karlsson, Hoad & Trueba, 2024; Eriksen, 2020).

During my fieldwork, I could observe how people of different ages and genders take part in seal-human relations in different ways, and how women hold specific knowledge and observation of social and environmental changes through their experience with activities like processing of seals products, consumption and sharing of seal meat. Therefore, a focus on practices and activities connected to seals made it possible for me to address the importance of Inuit women's observations and knowledge on environmental change, including a gender dimension that is generally underrepresented in environmental change research, particularly in Inuit contexts (Dowsley et al., 2011; Rautio et al., 2021).

Lastly, these multispecies relations provide an interesting insight into more-than-human agency and perspectives, highlighting the necessity of recognizing the interconnections between humans, animals and the environment in climate change research (Cassidy, 2012). The hunters that participated in this research often reported paying particular attention to how seals respond to changes in their habitat, identifying understanding seal behavior as a necessary step for successful hunting. During my fieldwork in Qaqortoq, Narsaq and Nanortalik, I learned about the diverse roles that seals play in people's lives, as well as the Inuit vocabulary used to refer to them. Furthermore, I learned how the different locations of these towns along the coast of South Greenland influence and create different economies and practices related to seals.

Figure 1

Nanortalik

RESEARCHING MULTISPECIES RELATIONS

The main activities that emerged from the conversations and interviews I conducted during my fieldwork were seal hunting, preparing seal skin, and processing seal products. These activities share some common elements, which contributed to influence the design and methods of my research. For instance, all these activities require a close collaboration with the landscape, being prepared for the unexpected, and relying on embodied and multisensory knowledge which is not easily expressed in words. As my research method has been mostly semi-structured face-to-face interviews, focus groups and informal conversations, I soon became aware of the limitations of words in addressing relations and knowledge that are grounded in senses, memories, perceptions, and emotions. I felt the necessity of including methods that would allow me to dive deep into these multispecies relations, giving my participants the opportunity to take me with them in their own experiences of relating to seals. Two main methods helped me unveil some aspects that remained inaccessible or unsaid during the interviews: commented and guided itineraries and filmmaking.

The first method occurred naturally when I had the opportunity to join a hunter on a trip to learn about the processing of seal blubber fermentation, a process that the hunter carries out on the rocks near the ocean on the island of Kangerluttuseq, which lies a short distance from Qaqortoq. Fermented seal blubber is an important food in South Greenland, the preparation

of which relies on personal and place-based knowledge. During the trip, the hunter showed me the different stages and steps he follows to make this product, as well as the thorough cleaning of the area he does once the process is complete. The reference that I used for this method was the go-along interview (Carpiano, 2009), however, commented and guided walks or itineraries became a better way to describe this experience. Indeed, the conversation flowed freely and evolved not from questions that I asked but from elements of the environment, listening to the radio and informal conversations that gave us the opportunity to explore and discuss topics that I might have overlooked in my questions.

Through this experience, I was able to gain a better understanding of some of the elements that characterize the relations between hunters, seals, and the environment during seal-hunting, as I was able to observe and experience some of the things I had learned during face-to-face interviews or get to know aspects that remain unsaid. For example, I experienced the feeling of sailing out to sea and the sensation of the air getting colder as we moved further from the coast and passed icebergs and drift ice, that a hunter had described to me in an interview. Moreover, the importance of the collaboration between hunters became much more tangible to me out in the sea than in any interview when we were promptly rescued and towed back to land by other hunters after the engine of our boat broke.

Figure 2
Seal fat fermenting on the island of Kengerluttuseq

I also had the opportunity to employ the method of filmmaking when one of my participants agreed to the filming of her work of preparing seal skin. Preparing the skin is a necessary step that precedes and makes the sewing of the skin possible. This activity includes different processes, among which washing the skin and removing the remaining fat and water with a traditional Ulu knife are the ones I had the opportunity to observe. In this occasion, the use of the camera has opened many possibilities as well as interesting reflections on my own presence and positionality as a researcher. For example, the filming revealed the ability of the artisan to work with sealskin, which is a complex and delicate process that requires time, specific tools, patience, strength and the ability to attune with the seal skin, following and respecting its structure, in order to avoid ruining it. In addition, the awareness of the presence of the camera changed the way my participant approached her work. She took the time to show the specific steps and tools involved in preparing the sealskin, explaining their purpose to me. Despite my initial intention was to make myself and the camera as least invasive as possible, filming from a corner that would not disturb her while working, my participant refused to pretend that the camera and I were not there, and engaged me, not only by showing her work but also inviting me to participate in the activity of preparing the skin. Thanks to her attitude, the whole experience emerged as collaborative work, in which I was not only the one who filmed, I was filmed as well. The experience of filming was particularly successful for different reasons, the most important being that it amplified the involvement of my participant in the research and it gave us the possibility to create something together.

CONCLUSION

In my presentation at the Sumu symposium, I outlined the topic of my research project and reflected on the complexities I encountered while researching seal-related activities in South Greenland. This presentation gave me the opportunity to share some of the lessons I learned during my last fieldwork experience and determine the next steps in my research. For instance, I became aware of the necessity to better organize my fieldwork visits around my participants' availability, acquiring more knowledge and information on the different activities that take place throughout the year. I also became much more aware of the need for a continuous reflection on my positionality as a non-Indigenous researcher throughout my research project, and of the effort to maintain a collaborative approach and define co-production of knowledge with my participants. Moreover, while the methods of commented itineraries and filmmaking have proven to be particularly useful to grasp embodied knowledge in seal-related practices, I realized that there were still limitations in the way I have employed them, especially the method of filmmaking. Indeed, while the use of the camera helped a lot to unveil the complexities of the process of preparing seal skin and increased the involvement and participation of the participant in the research, by keeping the camera in a corner and limiting its movements, I did not fully harness the possibilities that come with it. In the future, I want

to incorporate the camera into the heart of the activities, using it as an engaging tool that creates connections and transforms reality instead of just capturing it.

To conclude, I would like to reflect on the meaning of the title of my presentation, "diving deeper". Based on hunters' observations of seals' behavior when hunted, "diving deeper" has become a meaningful analogy for my own experience of researching seal-human relations in South Greenland. Thanks to the methods that rely on the use of senses and perception, I was able to immerse myself into the practices and landscapes that constitute these multispecies relations, following and being guided by my participants. These methods have allowed me to develop a deeper understanding of the various ways seals are present in people's lives in South Greenland, as well as the specific connections people form with the coastal landscape through seal-related practices.

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A PROCESS DIALOGUE OF THE EARTH'S VOICE EXHIBITION

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ABSTRACT

In our paper, we reflect, in a dialogic mode, on a practice-based exercise that brought together theoretical, artistic, and design thinking, with the aim of inviting national park visitors to reflect on how human guests visit forests and paths. The exercise originated from the 'Intra-living in the Anthropocene' (ILA) research group's desire to disseminate their research activities in the Pyhä-Luosto tourism area in northern Finland. The group ended up collaborating with three local photographers and a curator. Together, we created an art exhibition in the Pyhä-Luosto national park. For one year, three unlocked wilderness huts situated along the park's paths served as galleries where photographs and storybooks invited visitors to reflect on human-nature connectedness.

INTRODUCTION

This paper is a dialogue between an artistic researcher–design professional–curator and a tourism researcher on the Earth's Voice exhibition project. Two years ago, the 'Intra-living in the Anthropocene' (ILA) research group wanted to disseminate their research activities that aimed to engage with the supposedly mundane, earthly relations in new ways. For the ILA-group this had meant, for example, asking questions such as: What does the growth of tourism look like from the mosses' perspective? What stories might the Siberian jays tell their guests? Initially, the research group had an urge to write a book about rebellious non-human actors 'operating' in northern tourism settings, including stories of a lamp post, rock, trash can, and beard lichen inhabiting and working at the Pyhä-Luosto national park in Finnish Lapland (see

Rantala & Höckert, 2025). Instead of making a book, the group ended up collaborating with three photographers and a curator, which transformed the book project into an exhibition that landed in a national park.

FINDING THE FORMAT FOR THE EXHIBITION

The exhibition started to find its format through joint meetings between the project group: we wanted to combine both artistic, curatorial, design thinking and scientific approaches to illustrate the importance of human-nature connectedness at the environmental crisis (see e.g., Riechers et al., 2021; West et al., 2021). Pinja, as the curator got familiar with the research work published by the researchers of the ILA group and the researchers got familiar with the previous artwork of the three photographers, Antti Kurola, Antti Pakkanen and Antti Stöckell. As an inspiration of the earlier idea of a storybook, we ended up selecting phrases and quotations from the published research papers that worked as "mini stories", such as this:

> The secret of mosses' wellbeing lies in their smallness and slowness.

Besides the stories, another dialogue took place regarding the format of the exhibition. We tried to find a location for the exhibition somewhere at Pyhä and Luosto ski resorts, without success. We visited the tourism area both jointly and separately. In the end, our misfortune with finding a perfect spot in the resorts turned out to be a fortunate outcome. When not finding a space for the exhibition in the actual tourism resorts, the exhibition went to the people instead. With a permission from the Metsähallitus, the manager of the Pyhä-Luosto national park, the exhibition was presented in three wilderness huts situated in the park, with the art displayed as if it had always been a part of the space. This way, art become accessible even to those who would not intentionally have sought it out.

Once it was clear that the exhibition would take place in unlocked wilderness huts situated along the paths of the national park, the exhibition also found its final format – we decided to exhibit photographs and wooden storybooks in the cabins that would invite those visiting the national park and the cabins to reflect on human-nature connectedness. The exhibition aimed to draw attention to different ways of experiencing ecological diversity, how we visit the homes of other species, and maintain multispecies relations (e.g., Rantala et al., 2024). Thus, one of the Earth's Voice art exhibition's objectives was not only to create a concrete ending for the ILA research project, but to invite reflection and to increase knowledge regarding the multispecies research among natural park visitors. Non-human nature was strongly present also in the exhibition materials: the wooden storybooks as well as the wooden frames of the photographs were unique pieces made by a local carpenter. Indeed, in response to the Anthropocene time and human's impact on the earthly processes, several design processes are moving away from the human-centric approaches and rethinking the relations between

the various materials (Manning, 2025). We are used to live and look the life from the human centric perspective, but how would it change our experiences if we would learn to put oneself in another's position, although it would be a natural object or another species? How is nature experienced, and what factors shape the human–nature connection?

ENGAGING WITH WILDERNESS HUTS

Through our practice-based research process – where technical mastery of practices and materials sometimes competed with artistic goals and connected with artistic and tourism research – we studied the ways of executing the art exhibition at the national park wilderness huts (see also Varto, 2017, p. 6). Not only did we need to create functional solutions to compose the art pieces on the walls, but to keep in mind the remote location, its special wilderness surroundings, seasonal and weather conditions, and challenging access to the huts. We were walking, skiing or traveling by electric bikes while carrying the art with us as well as the tools needed for the installation (see Figure 1). Our journeys in the park formed an important part of the dialogue. The year-round time frame meant that weather conditions were changing from the warm summer months to cold, more than -30 C° winter coldness. Therefore, sometimes we would visit the park in smaller groups by skiing, or walking alone, and sometimes everyone would join – especially when installing and removing the exhibition.

Figure 1

Artists and researchers visiting the national park during the exhibition process. Photographs by Antti Kurola and Outi Rantala

The hut locations are remote; in general, you always traverse through nature to your next destination. National Park visitors are moving from one unlocked wilderness hut to another,

while they continue their journey to the new location every day. It is not possible to make a reservation for these unlocked wilderness huts. The huts serve all travellers equally. Wilderness huts offer shelter from bad weather and also serve as meeting points among unknown travellers. There are basic facilities for cooking, sleeping, and staying warm (Figure 2). There is no electricity or running water. However, the huts have a wood stock available for visitors to burn in a wood stove to create heat. There can be places in the national park where mobile phones are not working.

Figure 2

Wilderness cabins and their characteristics

Creating an exhibition in the wilderness needs a lot of attention. Project's designer is in a powerful position to influence with the choices and beliefs in a positive and sustainable way (Berman, 2009, p. 13). Visitors' authentic experience of the pure nature and its effects should not be taken away but experiences should be designed to increase or deepen the connection with nature. National Park offers various experiences of outdoor, silence, and beauty of the wilderness. By adding something – an art exhibition in our case – on top of that, we need to be discreet and almost inconspicuous: "If the gap between organism and environment is too wide, the creature dies" (Dewey, 2005, p. 13).

With the existence of the exhibition, our goal was to be receivable but not flagrantly visible. The used materials of the exhibition pieces were chosen carefully. From designer's perspective it was important to speak the same language with the hut environment but also consider materials as a whole; what are the social impacts, and are they bringing the better future for the planet, surroundings, animals, natural resources, and humans. Material responsibility is also seen a growing trend in design field (Manning, 2025.) The materials we used were mostly wooden. The art photographs were made with different techniques, and they were invisibly attached on the surface of wooden frames. The beautiful wooden sides of the frames were creating one of the recognizable parts of the exhibition visuals. Wooden books were left on the tables of the wilderness huts as part of the exhibition outcome (see Figure 3).

Figure 3

Wooden photographs and books as part of the exhibition. Photographs by Antti Kurola

The wall logs in the cabins were round, which brought a bit more challenge for the mounting, but we managed to create practical and unseen wall mounting mechanisms behind the photograph frames. A local carpenter participated in the design process and executed the frames and wooden books. With his knowledge, we created the products that endured the whole year at the wilderness huts, experiencing four variable seasons. It is part of the successful design process to verify practicality and usability, which are the marks of the durable and sustainable choices.

DESIGNING A DISCREET JOURNEY

Experiencing the Earth's Voice art exhibition can be described as a journey. It is not limited to the art photographs on the walls of wilderness huts but is melting together with the environment inside and outside, with nature that surrounds a visitor wandering in the natural park. "In a work of art, different acts, episodes, occurrences melt and fuse into unity and yet do not disappear and lose their own character as they do so…" (Dewey, 2005, p. 38). Everyone who visits the wilderness huts and has made the journey will experience the exhibition in different ways. When one part leads to another, and each part continues from the previous one, every part gains its own distinct character, and the flow within the experience is from something to something (Dewey, 2005).

We cannot be sure that all visitors have noticed the exhibition while stopping by or staying at the wilderness huts. As part of her PhD project, one of the ILA researchers, Salla Jutila, visited all three huts hosting the exhibition to read the guest books that one can find in every open wilderness hut. According to the national park manager, Metsähallitus, visitors can sign their

names, make comments about their journeys and destinations, and comment on the condition of the hut in the guest books. Visitors seem to stick to this tradition and seldom include comments about the artwork in their notes. Our research group wondered if this means that our intentions to repair and enliven multispecies relations through the exhibition somehow failed (Rantala & Höckert, 2025)? Can we trust that something happened and something matters without us being able to prove it? Indeed, we were curious to know more about people's perceptions about the exhibition, but we chose not to conduct interviews or to ask visitors to fill in questionnaires as they leave the huts. In a way, it was our goal: to be exhibited, to raise awareness, but to do it on the terms of the surroundings, discreetly. It could be said that we have aimed to actively participate in creating a phenomenon through quiet interpretation, reasoning, and reflection – and by aiming to evoke impressions (Stengers, 2011; Vannini, 2015). During the quiet and still moments, visitors have been able to enjoy looking at the photographs and thoughts those evoke in their minds, which is when we feel we have succeeded. We have been able to reach people with the exhibition who do not normally visit art exhibitions or enjoy art in everyday life. In the end, we learnt through our dialogical process that the journey is the most important experience of the result (Dewey, 2005, p. 4).

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GHOSTLY ENCOUNTERS AND TRACES OF HOPE IN THE SNOW

Exploring lost ski areas beyond modernity

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ABSTRACT

The decline of ski areas worldwide, driven by rising temperatures, reduced demand and competitive pressure, has led to an increasing number of "lost ski areas". These abandoned ski areas with their ruins of cable cars or ghostly presences of nostalgic skiing accounts challenge the linear narratives of progress and growth embedded in modern skiing. Focusing on the lost ski area Super Saint-Bernard, this paper explores how lost ski areas continue to "live on" through discursive, material, and affective entanglements and offer opportunities to hospice modernity. Using archival data and a narrative analytical approach, the study identifies three key themes: navigating responsibility, bearing witness, and speculative worlding. These practices highlight community efforts to care for and compost modernity's waste and ruins, the continued engagement with nostalgia and critique, and the playful reimagining of abandoned infrastructure. Rather than viewing lost ski areas as failures, they are reinterpreted as spaces for learning, grieving, and fostering alternative futures beyond modernity. They provoke critical questions about responsibility, care, and the possibility of a 'good death' for modernity. They invite us to stay with uncertainty and loss while exploring plural, embodied, albeit more ephemeral futures in winter tourism. This research shows how lost ski areas as ruins of modernity can inspire new ways of organizing, living, and being in the Anthropocene, by offering sparks of hope and creativity amidst the remnants of capitalist progress and modernity.

INTRODUCTION

Facing declining demand and rising temperatures (Steiger & Scott, 2020), ski areas all over the world need to shut down their operations as they are no longer profitable. However, these ski areas continue to exist as ruins (Edensor, 2005; Pullen, 2023), ghostly presences (Tsing et al., 2017), and lively edgelands (Hirst & Humphreys, 2013). These ski areas are often framed as

failed projects of modern skiing as they cannot pursue the promises of growth, innovation and technological progress (Denning, 2015; Groß, 2019). In the advent of the climate crisis, demographic change and an increasing struggle for economic profitability in a highly competitive market (Heise & Schuck, 2020; Schlegel & Schuck, 2024), the coming decades show an increase in such lost ski areas in mountain regions.

HOSPICING MODERNITY IN LOST SKI AREAS

Despite their perceived failure, the mountains show aging infrastructure and traces of slopes, and the ski culture often lives on in tales of the local community. In some areas, the absence of fast-paced, commercial and industrial rhythms of the winter tourism industry gives way to new entanglements with mountains, leisure and skiing. In this assumed failure, however, these places make visible the failed promises of progress but also the violence, harm and burdens that modernity unequally distributes. As such, these lost ski areas become spaces where we can learn beyond modernity (Machado de Oliveira, 2021): where we can enable a 'good death' and midwife something new in the ruins. This study aims to understand how these lost ski areas 'live on' or hospice modernity within the discursive, material and affective entanglements they cast. How might these 'capitalist ruins' (Tsing, 2015) and 'blasted landscapes' (Kirksey et al., 2013) create the possibility for alternative forms of winter tourism where the promises of an ever-growing winter tourism industry no longer hold (Groß, 2019; Nadegger, 2023, 2024)?

EMPIRICAL EXPLORATIONS

Empirically, the research focuses on stories and tales of lost ski places through archival data (such as documentaries, videos, reports, and historical accounts) and adopts a narrative analytical approach that looks for joint speculations, practices, and themes. The empirical illustration are based on the case study of Super Saint-Bernard in Switzerland. Super Saint-Bernard once featured three lifts and 25 kilometers of slopes. The ski area closed in 2010 after 48 years of operation. Based on online material, newspaper article and documentaries, I sketch three different practices related to hospicing modernity: *navigating responsibility, bearing witness,* and *speculative worldings*.

In navigating responsibility, the lost ski area surfaces important questions on caring and taking responsibility for these ruins and their disposal. The lack of care shows the difficulty of pinpointing responsibility by firms and operators, who often turn away to the next infrastructure progress. At the same time, it also surfaces instances of grass-roots responsibility in communities, who organize to compost modernity's waste from the bottom up. In bearing witness, we see how the community, skiers and adventures still visit and engage

with lost ski areas, rather than leaving these ruins behind. The empirical material prominently features postcards, nostalgic memories and oral stories of the 'glory days' before the closing. Yet at the same time, all these stories critically engage with these failed promises of modern skiing as well as the dark side of mass tourism. Lastly, speculative worlding emphasizes the future orientation that can emerge from such ruins. Abandoned infrastructure gets re-used in a playful and artistic manner, and former ski huts become stables for sheep and cattle. These patchy, less strategic and directed developments in lost ski area surface often more community-based, ephemeral yet locally grounded instances of future making.

CONCLUSION

Concludingly, these lost ski areas invite questions on responsibility for modernity's end between care and neglect, witnessing endings as navigating nostalgia and critique and playing with speculative futures as patchy, embodied and plural possibilities. They challenge linear-unidimensional narratives of progress through relations of navigating responsibility, bearing witness, and speculative worlding emerge and provide initial sparks (rather than clear cut solutions) on how to organize, live and be, when modernity 'ends' (Machado de Oliveira, 2021). Rather than seeing such lost ski areas as failed, left-behind, empty spaces, we can see how they help us to understand and stay with uncertainty, loss and grieving when the promises of modern skiing no longer hold. They provoke questions on how to not just turn away but develop the capacity for responsibility beyond and a 'good death' for modernity

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SLOW BIODESIGN

A bioreceptive approach for multispecies participatory design practices

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ABSTRACT

In the emerging practice of biodesign, living organisms are active components of the design process for creating biofabricated materials, living artefacts, or systems. In this context, an interesting and overlooked aspect is the role of design in creating abiotic elements to support living agents. Bioreceptive artefacts, namely life-enabling materials and structures able to host and enhance biological colonisation, can be addressed in multispecies design approaches, considering human and non-human needs.

This contribution explores the potential of low-tech bioreceptive design practices for multispecies design. Drawing on a project by the author, *Designed Wilderness: Minimum Viable Ecosystems*, the study reflects how craft can contribute to biodiversity and multispecies encounters. The project foresees the creation of clay-sculpted artefacts as a platform for multiple species to co-author a collaborative and open-ended design path. Moreover, bioreceptive artefacts can support relational approaches in biodesign, cultivating an aesthetic of wonder that follows the evolution of the adaptive surfaces, intended here as multispecies participatory design practices.

As human activities increasingly reshape our built environments into low-biodiversity landscapes, the urgency of creative and effective strategies for species integration and conservation has never been more pressing. Bioreceptive artefacts, co-evolving with nature's rhythms, can act as catalysts for new life forms, becoming habitable spaces and living laboratories that foster design practices that contribute to multispecies coexistence.

BIORECEPTIVE DESIGN, AN EMERGING APPROACH IN BIODESIGN

Biodesign is a nascent discipline that entangles design and creative practices with sciences such as biology, bioengineering, chemistry, and materials science (Ihls & Pollini, 2025). Material experimentation is widely explored in the field, spanning from biomass-based sources to biofabrication to inert materials' bioreceptive properties. Focusing on the latter, bioreceptivity has been addressed as "the totality of material properties that contribute to the establishment, anchorage and development of fauna and/or flora" (Guillitte, 1995, p.216), Materials' bioreceptivity has historically been referred to as "biodegradation" and "biodeterioration" of the built environment until the late-60s and has most often been associated with negative connotations (Sanmartín et al., 2021). Still, in Biodesign, this material feature can be particularly interesting, as the livingness of materials and artefacts is emerging as a design option (Karana et al., 2020). In this perspective, the design of the inert counterpart supporting life is gaining momentum, defining the design of abiotic elements to support living agents as Bioreceptive Design (Cruz & Beckett, 2016; Pollini & Rognoli, 2021). Life-enabling materials, namely bioreceptive materials and structures able to host and enhance biological colonisation, can be addressed in multispecies design for different purposes, such as increasing the biodiversity of a site or restoring a depleted area (Pollini & Rognoli, 2021).

During my doctoral studies, I explored bioreceptive design from a theoretical perspective, analysing some of the early case studies related to the concept of *intentionally designed materials/artefacts to be colonised by life forms,* and outlining a procedural thinking to support designers in the development of new bioreceptive materials and artefacts. Design for bioreceptivity focus on dynamically matching three main variables mediated by design: the organism requirements, the environmental conditions, and the intrinsic material properties; the design of the material accommodates the organisms needs according to environmental conditions, working on different parameters, such as material composition, shapes and textures and adjusting nutrients, porosity, colors and specie-related affordances (Pollini & Rognoli, 2021).

To test this approach and the potential of Bioreceptive Design, I initiated an interdisciplinary research-through-design project to develop materials and surfaces receptive to mosses and lichens for use as biosensors in biomonitoring activities in urban environments (Pollini et al., 2023). Thanks to this project, I was able to fully grasp the potential applications of this design approach, which might easily translate into architectural, remedial, biophilic, and regenerative applications (Pollini et al., 2023). In this project, the design objectives were achieved by adopting a computational design approach and using additive manufacturing as a core activity; however, I also began to consider a more craft-based approach to test alternatives to reduce the time required to make prototypes. In fact, clay 3D printing can be time-consuming compared, for example, to 3D printing plastic stamps to be subsequently used as stamps in a

ceramic studio. I approached this second technique to be able to create multiple material samples to test different bioreceptive variables and materials compositions in a reasonable amount of time (as these variables would require further extensive adjustments for a 3D printing process), and this was the start of a personal reflection about the use of craft in biodesign.

Biodesign is often associated with lab settings, given the need for safety and hygiene protocols when working with living organisms; however, for bioreceptive design, this is not always the preferred work setting, as it entails living interfaces, whose applications often involve urbanised or wild environments. In this context, a craft approach seems appropriate and feasible, at times a deliberated design choice. Another pivotal moment for this reflection has been an interview with Nigel George, co-founder of Artecology (Pollini, 2023), a not-for-profit organisation specialising in *nature inclusive designs and eco-engineering.* Artecology uses an eco-engineering approach to improve wildlife habitats by creating designed elements, including hand-sculpted elements. Nigel described his work as *artworks with an ecological function*; the accessibility of some of the techniques used in their creation allows him to involve local communities in the creation of bioreceptive artefacts easily. Discovering his approach to bioreceptive design was another invitation to consider the many advantages a craftier approach might offer in the field.

Observing some of the prototypes I created for the project on biomonitoring over time has also helped me understand that Bioreceptive design often adopts simple, basic rules (such as material porosity and water channelling) that can attract different life forms, creating an ecological service that goes beyond the targeted species, and that can easily transform into an autonomous and regenerative system. Only a niche of Biodesign projects tend towards such regenerative processes; this possibility coincides with the artefact's ability to create a system that can regenerate, namely *one that can evolve, self-organise, and propagate* without any further human maintenance (Pollini & Rognoli, 2024). The prototypes developed to test bioreceptive materials targeting lichen and mosses showed this possibility, acting as a support for the moss's autonomous life, and serving little insects and snails that were observed over time taking advantage of the protective environment resulting from the colonised prototypes over time, not to mention the microbial life inhabiting the same space undisturbed and invisible to the human eye. In fact, in a first study on bioreceptive materials for biomonitoring, we were able to observe the pioneer species coconneis placentula using Scanning Electron Microscopy, otherwise visible to the naked eye only as a green patina (Pollini et al., 2023).

Figure 1

Prototypes developed to test moss transplant viability for biomonitoring (Pollini et al., 2023), which accidentally became shelter for little snails

SLOW BIODESIGN: DESIGNED WILDERNESS, MINIMUM VIABLE ECOSYSTEMS

Reflections made retrospectively on the first project and matured over time - a time that follows the rhythm of the spontaneous colonisation of lichens and mosses that requires long-term observation – facilitated ideas for a new exploration of bioreceptivity in Biodesign. After my PhD, in the summer of 2024, I decided to explore bioreceptive design under the light of craftsmanship, slow colonisations, and the art of noticing. I called this approach ***slow biodesign***, meaning *an approach that foresees and embraces the slowness, variability and unpredictability of both material making and spontaneous colonisation*. The project, titled *Designed Wilderness, Minimum Viable Ecosystems,* consists of bioreceptive sculptures made in ceramics as a means to encourage spontaneous colonisation by living organisms, transforming the artefacts over time into habitable spaces for a multitude of situated species, might them be microalgae, mosses, or insects, transforming a designed object into a small ecosystem. Unlike the previous project, which targeted specific species, I wanted to maintain a more artistic, less scientific approach, letting chance and time decide who would benefit most from the presence of these bioreceptive artefacts in a given environment.

In spring 2024, a set of five small sculptures (average size: 12 x 6 x 6 cm) was created in unglazed fired red clay. Red clay was selected as previous prototypes showed better results than white clay in microalgae colonisation. Red granite has also been observed to stimulate algal colonisation, suggesting that this colour might be more attractive to pioneer species than other colours (Sanmartín et al., 2020). The artefacts are unglazed, with only minor coloured details in ceramic slip (Figure 2). In this project, bioreceptivity is ensured through the material's porosity, which naturally occurs in unglazed ceramics (Portillo et al., 2011), and roughness is increased through pattern design that creates small cavities and microgrooves (Mustafa et al., 2021). Moreover, organic shapes create larger niches, where dust, ground,

spores, and seeds can sediment, serving as secondary bioreceptivity, as exogenous deposits that modify the initial material bioreceptivity (Guillitte, 1995). Material composition was not addressed in this project because the primary goal was to focus on relationality and observation in multispecies design.

A relational approach to the material started with the sculpting process. In the computational approach, the form is defined digitally beforehand and then printed, incapable of undergoing further changes without repeating the digital production process. This separation between thought forms and material making prevents a design that evolves in the process. In contrast, during manual sculpting, designers can think while making, following the material's rhythm and cues, with the freedom to modify their design in the making. For this project, I didn't begin by sculpting artifacts that I'd previously studied in detail on purpose, but I did have formal objectives, such as organic shapes, niches for insect nesting and for the sedimentation of dust, soil, or organic material, and bioreceptive textures such as holes or lines that would create a surface accessibility to biofilm and other organisms. In line with Malafouris' Material Engagement Theory (Malafouris, 2013, 2019) and the material agency described in New Materialism (Bennett, 2010), this indeterminacy in the initial design allowed me to make design decisions as I modelled, based on the opportunities suggested by the material in the making, and by the envisioned bioreceptive scenarios. Specifically, the idea that clay's affordances actively shape the design process described by Malafouris (2019) closely matches the possibility of a relational, slow design, which requires time to listen to the matter and to envision multiple options emerging during the making.

Figure 2

Part of the bioreceptive sculptures in the making (image on the left), and right after firing (center and right)

In bioreceptive design, however, material agency reaches another level of complexity when material features translate into affordances for a multitude of species that will continue to co-design on a surface level. After the firing, the bioreceptive sculptures would be ready for display in natural, rural, or urban environments, including gardens and balconies, as potential habitats. However, I decided to transplant some mosses and lichens to potentially make the artefacts look less sterile and boost the colonisation process.

Figure 3

Bioreceptive sculptures with transplanted mosses and lichens

Mosses' transplant was possible thanks to the niches created during the modelling phase, which allowed the deposition of a few millimetres of soil useful for a lasting, regenerative transplant. Lichen transplant was possible using a starch-based bioplastic as a glue. These transplants on the fired pieces were also intended to increase the artefact's biophilic potential. Bioreceptive materials can provide a *visual connection to natural systems*, a biophilic pattern linked to improved health behaviours, environmental awareness, and psychological restoration (Sahu, 2021). Bioreceptive artefacts can definitely enable biophilic experiences through dynamic, textured, and organic shapes, but they reach their biophilic potential when serving as living interfaces that enhance greenery and multispecies habitats.

As the bioreceptive sculptures are exposed to the natural environment, their appearance changes quickly: they accumulate dirt and dust, various animals take advantage of the green enrichment transplanted (sometimes eating it away), and, slowly, the artefacts start to be covered in a biofilm. This allows pioneer species to prepare the ground for the slower-growing species that will follow in the spontaneous colonisation of the piece. A complete colonisation process will take years, but from the first days of exposure, different species will interact and leave their mark, participating in the ongoing transformation of the piece.

Figure 4

Changes over time of a bioreceptive bell. In the center and on the right, images show how the bell loses some of its green decoration but is inhabited and visited by insects over the seasons

MULTISPECIES PARTICIPATORY DESIGN PROCESSES

In this project, bioreceptive artefacts act as a platform for multiple species to co-author a collaborative and open-ended design path, becoming a pretext for reflection and connection based on human observation of the pieces' evolution over time.

The *art of noticing* has been defined as a process of understanding non-humans and natural systems based on multi-sensorial observation (Liu et al., 2018; Rosén et al., 2024; Tsing, 2021). In my exploration of Bioreceptive Design, the art of noticing (here intended as a slow, recursive, and attentive observation of natural dynamics in urbanised environments) has been fundamental to grasp a relational understanding of the organisms I was addressing alongside scientific knowledge. My interest in lichens began with regular observations during dog walks in a city park in a small town in the Po Valley, one of the most air-polluted regions in Italy and Europe (Marinoni et al., 2025). My attention was caught by a lichen about 5 centimeters in diameter sitting on a streetlamp's plastic pole, whose scientific name I didn't even know at the time. I later discovered that the lichen was a Xanthoria parietina, a cosmopolitan specie that tolerates polluted human environment, which became the target species for the biomonitoring research project (Pollini et al., 2023). The frequency with which I observed it taught me how it behaved, changed with the seasons, and grew over time. What was dry, fragmented at the center, and seemingly fragile in summer, transformed with the cold and rains of autumn into a regular, lush bouquet of bright colours. This fascination led me to investigate more lichens in the context of my discipline, Biodesign, and to rely again on the art

of noticing to detect patterns of growth in lichens and mosses across surfaces, weather conditions, and orientations, among other parameters. The art of noting, and the possibility that this act of attention could lead to a better relational understanding of non-humans and natural systems, also became the final goal of the project, *Designed Wilderness, Minimum Viable Ecosystems.*

In Bioreceptive Design, the time frame of observation can be extensive. Designing with living organisms, the time scale can highly influence the user experience, and this project has also been fundamental to my research path in understanding different temporalities in Biodesign. If commonly used organisms in the field, such as mycelium, bacteria, or algae, can grow in weeks and are considered fast renewable; this cannot be said of mosses and lichens, which grow only a few centimetres per year. In line with indigenous knowledge principle that *design is how all living beings co-operate to co-create* (Moran et al., 2018), the waiting for organisms changes, growth and colonisation brings human observers closer to the temporalities of others-than-human, stimulating temporal ecologies and relational approaches in tune with the biological rhythms of the organisms observed (Pollini & Kääriäinen, 2025; Williams, 2022). Moreover, when other species start to be considered as co-creators, as often claimed in biodesign (Collet, 2020; Davidova, 2017) and definitely evident in bioreceptive design, multispecies collaboration in design practice can be seen as participatory processes. In an attempt to reimagine multispecies commons, co-design and open-ended design can be seen as a pathway to frame participatory design beyond human exceptionalism (Haldrup et al., 2022). In fact, the field of participatory design, rooted in human rights and well-being, is increasingly questioning the need to embrace entanglement theories, reframing the discipline's focus on relations that include non-human living and non-living entities (Heitlinger et al., 2025).

CONCLUSIONS

The project presented here, *Designed Wilderness, Minimum Viable Ecosystems,* explores the potential of craft in bioreceptive design practices, potentially contributing to urban biodiversity, biophilia, and ultimately to multispecies participatory design. The project aims to exemplify a paradigm shift in design practice, in which temporal and ecological processes become central to aesthetic and functional outcomes. By embracing slow transformation through colonisation by diverse organisms, these artefacts function as living laboratories, material substrates that actively facilitate multispecies coexistence while simultaneously serving as experimental sites for understanding design's role in supporting biological diversity. In the context of contemporary biodiversity loss, bioreceptive design offers a methodologically grounded approach to integrating ecological regeneration with human experience. Beyond their symbolic or contemplative dimensions, these bioreceptive sculptures carry a pedagogical potential as educational instruments that engage both children and adults in direct

observation and interaction with local biodiversity, thereby fostering ecological literacy and environmental awareness. The scalability of this approach further underscores its relevance; applications ranging from bioreceptive building facades and architectural surfaces to everyday objects designed for urban settings suggest the possibility of transforming the built environment into functional ecological infrastructure. Concurrently, the relational and contemplative qualities inherent to bioreceptive practice invite users to decelerate and re-engage with natural processes, supporting human connection with nature, fostering observational relationships with natural systems, and cultivating an aesthetic of wonder regarding the evolution of the adaptive surfaces, intended as multispecies participatory design processes.

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RIVER CHANTS

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ABSTRACT

River Chants is an artistic, transdisciplinary research project that aims to understand how women's chants are intertwined with rivers, climate change, and non-migration. It originates from the immersive art installation *Sot Glas,* developed for the 18th Architecture Biennale of Venice by the artist Giuditta Vendrame and the film director Ana Shametaj. Following the rivers' songs and flows, *River Chants* marks a new chapter in their research, where I contribute as a social scientist. In *River Chants*, we are drawn toward a figurative river mouth tracing a backward migration route to the Bengal Delta and to the homes of those who do not migrate, reflecting on the memories of cyclones and the emotions arising from these deep listening sessions.

RIVER CHANTS

> To develop an artwork, you need to begin with an emotion. It is only once you have found the emotion you want to convey that the work will start to unfold.

These words by Ana have stayed with me since that Saturday afternoon in July. We were visiting the Rivoli Castel, a contemporary art center just outside Turin, Italy. We were looking at the work by Roni Horn, *Still Water (The River Thames, for Example).* Horn portrayed the deep and obscure waters of the Thames River, transforming them into a longing cartography mapped through little white numbered footnotes, where poetic stories told by the Thames River itself let the emotional turmoil of its waters surface. Dark stories on suicides, drowning, and corpses emerged from these imprescriptible portraits of the river waters: a stream of consciousness on the shadows of the fears we all feel, the feeling of being lost, alone, without purpose, and so easily to be forgotten in this continuous flux of obscure flowing waters.

> The river moves quickly and things get lost easily. It's possible to disappear for good—never even come back up. It's been known to happen. Getting lost—the night is only for now says one of the footnotes.

The river talks, it touches the deepest fears we might feel by looking at its restless flowing, where water, over water, over water moves, taking away with it what we prefer to forget.

> You need to begin with an emotion.

These words keep staying with me. What is the emotion of the story I want to tell contributing to this project?

River Chants is an artistic, transdisciplinary research project that aims to understand how women's chants are intertwined with rivers, climate change, and non-migration. *River Chants* originates from the immersive art installation *Sot Glas,* developed for the 18th Architecture Biennale of Venice by the artist Giuditta Vendrame and the film director Ana Shametaj. *Sot Glas* examined the Italian-Slovenian border through the lens of folk songs. Among cross-border songs mixing Italian and Slovenian languages and words, Giuditta and Ana, in their research, encountered chants also from the Pashtun community and from immigrants from the Bengal Delta who now live and work in the naval industry area of Monfalcone, near Trieste, the largest Italian city after the Slovenian border. Trieste is also sadly known for being the end of the Balkan migration route, the walking migratory path that migrants who decide to reach Europe on foot follow. It is traveled by climate migrants, among others.

Following the rivers' songs and flows, *River Chants* marks a new chapter in the research by Giuditta and Ana, which I was invited to join as a social scientist. With *River Chants*, Giuditta, Ana, and I are brought toward a figurative river mouth tracing a backwards migration route to the Bengal Delta, to the homes of those who do not migrate. Although media and some scientific narratives seem to posit it otherwise, as Carol Farbotko (2022) suggests, the specter of mass climate migration is based on flawed models and is significantly less than it might appear. Indeed, most people, often the most vulnerable, do not migrate. The writer Amitav Gosh, in his essay *Uncanny and Improbable Events* provides an explanation for this phenomenon with these words:

> …most of us as individuals, to leave the places that are linked to our memories and attachments, to abandon the homes that have given our lives roots, stability, and meaning, is nothing short of unthinkable (2021, p. 62).

Indeed, land could fall under the ocean waves, be cracked by droughts, or be submerged by floods or wiped away by cyclones, but most people will not leave it, as it is home to them. And one of the areas of the world facing some of the highest impacts of climate change today is the Bengal Delta, where the slow rise of ocean waters is salinizing the land, rendering it increasingly sterile. As Reazul Ahsan and colleagues (2014) have shown, within climate-

induced migration in Bangladesh's Bengal Delta, only a small percentage of people are willing to leave their dear ones, their homes, and their land to escape these unfavorable conditions and build a new life in a faraway country. Internal migration, or migration within the same country, is much more common, although, also within internal migration, some categories of people are left behind. This is how we came into contact with the social scientist Biswajit Mallick, who is now one of the scientific consultants of the project. He, together with his research group FeStay (Why Females Stay Despite Environmental Risk), studies the reasons that deter females, especially, from migrating (Mallick & Van Den Berg, 2025).

You need to begin with an emotion.

These words keep staying with me. What is the emotion of the story I want to tell contributing to this project?

Who are these people, these women left behind? How are they dealing with the trouble they find themselves in? How do they feel? How do they feel in seeing their land becoming sterile, a distant, a cold mother? What songs do they sing about this?

Maybe the emotion I want to bring to this project is a feeling I experience every time something does not go quite right. The images of fires, of floods… Los Angeles, Valencia, Taiwan… everywhere. This sense of displacement, mixed with this feeling of being trapped. Of being in the wrong place. Of not knowing what to do, how to adapt to this changing climate. Of not knowing how to stay with the trouble. Of not being able to stay where I'm supposed to, to do this research project. If the water starts to rise, where do I go? If the cyclone arrives, where do I go?

Throughout *River Chants*, with Giuditta, we encountered some ethnomusicologists to explore the *repertoire* and traditions of the Bengal area's chants. We found the fascinating research of Priyanka Basu and Radha Kapuria, who are also scientific consultants of the project and who recently curated the volume *'Performing' Nature: Ecology and the Arts in South Asia* (2025), where they collected a series of studies tracing nature and climate change in the musical and performative tradition of the area. Radha, in her research, *Singing the Rivers in Punjab*, shows how rivers are sung as living metaphors of the land. Priyanka instead presented us with the performative tradition of scroll paintings, how singers are incorporating stories about climate change into their practices, and how these are lived and narrated in the folk and oral traditions nowadays. Among these narratives, one that appears to be very common in the Bengal Delta is the *Manasamangal*. The *Manasamangal* is an epic story whose protagonist is a goddess, Manasa Devi, the snake goddess. As with every epic tale, thousands of variants of it exist.

In summary, the epic is about a merchant who refuses to worship Manasa Devi as his goddess; therefore, the goddess follows him all over the world, putting him in front of losses, difficulties, and risky trials, eventually making him one of her worshippers. The merchant risks losing

everything he has before he submits to Manasa. Within this larger story frame, another story unfolds: the youngest and only surviving son of the merchant falls in love with Bheula, and his father, fearing Manasa, decides to protect them by arranging their wedding in a castle where no holes could let snakes in. Nevertheless, one version of the story says that during the wedding night, a snake manages to sneak into their castle, biting the merchant's son with a fatal bite. Bheula, knowing this death is caused only by her husband's father's pride, decides then to travel to the world of the dead to beg Manasa Devi to save her beloved husband. She therefore sails with her husband's dead body through the river, crying mercy to the goddess passing from village to village, in one version of the story, until the body of her husband gets rotten in the river waters. She eventually reaches Manasa, who sees her pure love and intentions, and eventually brings her husband back to life. Many other stories and songs surround this legend. And this epic, far from being a lifeless story, keeps being re-narrated by both rock bands, such as the Bangladeshi band Shunno, or, again, also by famous novelists like Gosh, who, in his novel *The Gun Island*, re-reads this myth from an eco-critical perspective. Following Astrida Neimanis words, I wonder: what do these stories do?

> What can they change, and how can they illuminate and produce more ethical accounts of living well together? (Neimanis, 2017, p. 64).

River Chants. The stories I have the privilege to attend are not only human stories. There are the rivers. Many rivers. The border region of the Bengal Delta, across India and Bangladesh, is crossed by hundreds of rivers.

John Charles Ryan, in a recent interdisciplinary study on rivers, has introduced the new concepts of rivercentrism and hydropoetics. In his words, he is detaching from anthropocentrism to *rivercentrism* as *"a river-focused worldview as well as a physical identification with rivers as bodies in themselves*" where "*river is a phenomenon in process, a being that is perpetually in-becoming, and a non-human radically distributed across space and time*" (Ryan, 2022, p. 487). Within this framework, he continues saying that

> the concept of poiesis is helpful to understanding rivers and human–river interactions. Poiesis calls our attention to the generative potential pulsing in all that exists. The term signifies the idea of "bringing forth"—the lively potential of things, including rivers, to change, adapt, intermingle, decouple, intensify, and diminish (Ryan, 2022, p. 487),

and in rivers, hydropoetics flows naturally.

What do rivers and songs share? They both flow, fascinating and mesmerizing the sights of those listening to them, taking them somewhere else, while remaining in the same place. Changing constantly, the physical metaphor of transformation. What stories do the waters flowing in these rivers tell?

What story are they telling me?

Like a river crossed by countless waters, so are the emotions that flow through me. When you listen to them, they flow through your soul, taking you where they flow. A continuous transformation.

Among the people we met in our research journey, a meaningful encounter was with the singer and researcher Moushumi Bhowmik. Moushumi has been helping us by guiding us through her archival project, *The Travelling Archive*, "*a shared space for listening to field recordings of songs, stories and other sounds from Bengal, including the diaspora*" (www.thetravellingarchive.org). Moreover, she introduced us to her approach of deep listening. We organized a symposium at the end of June this year, and we invited Moushumi as a keynote speaker. She began her moving talk by inviting us to participate in a collective deep listening exercise, during which she shared with us a recording of Cyclone Amphan that struck Kolkata in May 2020, an experience she had firsthand. That sound brought me back to the emotional world. It was the sound of fear. That profound ancestral fear of being small compared to the large unknown. That recoding brought me back to my fieldwork during my PhD research when I first encountered and experienced a cyclone. With my indigenous interpreter and friend, Manhakani Nongrum, we were staying in a traditional Khasi homestay in the village of Khonthong, Meghalaya, India, on the border with Bangladesh. The village, known as the Whistling Village, is situated at the summit of a hill within a canyon. Listening to Amphan, I got brought back to the most vivid memory I had about the cyclone, the wind. The wind howled. It howled, entering the canyon surrounding the village, it howled as a snake-shaped monster would come to bite and shake our house off. Manhakani and I were frozen with fear, trying to sleep next to one another, hearing and feeling the fear filling the air: the wild dogs crying below the homestay and the mice squeaking just beside the bamboo walls dividing us from the outside. Also animals felt the fear. Electricity had already gone off the day before, and we only had a feeble torch with us. The howling wind, after screaming down the canyon, shook the roof covered with palm leaves, again and again. My biggest fear was that the wind would blow the roof away, leaving us there, in the dark, under the pouring rain, with the scared mice and dogs near us.

That was my encounter with Cyclone Hamoon, which later, fortunately, weakened as a severe tropical storm, causing "only" five casualties in Bangladesh. Bangladesh lies just below the Meghalaya highlands, where we were staying. In the village the next day, people had to clean the leaves and repair some metal sheet roofs that the wind had blown away—ours had resisted.

Is this the voice of the weather? Of this changing climate?

These memories, these emotions, surfaced just listening to the Cyclone Amphan recording and made me think about the centrality of water in all these confused emotions I'm bringing

you forward. Bronwyn Bailey-Charteris, in her book *The Hydrocene: Eco-Aesthetics in the Age of Water,* highlights this centrality with these words:

> With the acceleration of the climate crisis, water has now become a central material and metaphor for the times. When viewed through the prism of water, the climate crisis is a story of extreme loss and transformation (2024, p. 1).

Extreme loss and transformation. Observing the darkness. Returning to the still waters of the Thames, listening to its voice, its story, and finding ourselves lost, swept away by the powerful force of myth, of storytelling, of stories of goddesses, snakes, and cyclones, feeling emotions that remained unknown until then. Becoming the river.

> Sometimes you just need to embrace the void and be open, Giuditta once told me.

Here I am, writing-with and getting lost-with the Kemijoki River waters in Rovaniemi, thinking of *River Chants,* wandering in the mist, in the *sumu.*

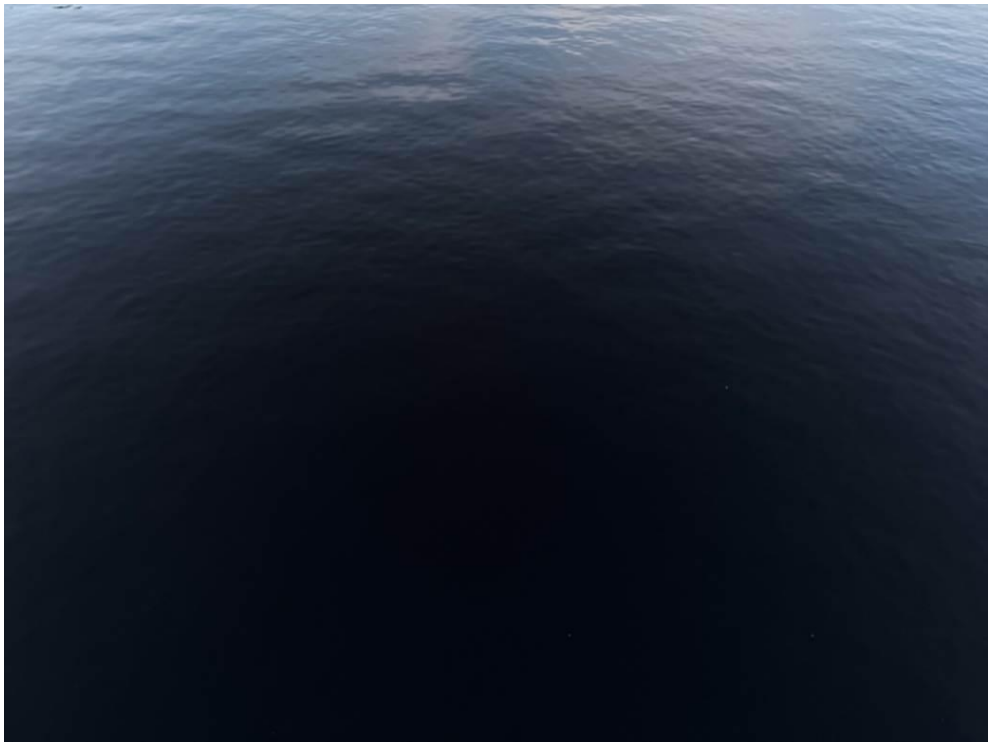

Figure 1

Portrait of the Kemijoki River in Rovaniemi, September 24th, 2025

Final note. The geopolitical tensions that emerged after the July Revolution in Bangladesh in 2024 have limited our travel possibilities to this point. As we have had to adapt our initial research plan multiple times, Giuditta conducted our first fieldwork at the end of October 2025, traveling to Bangladesh. We hope to travel together to the Indian side of the Bengal Delta at the start of 2026.

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ECOLOGICAL JUSTICE FOR CONTAMINATED RIVERINE COMMUNITIES

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ABSTRACT

The climate crisis, loss of biodiversity and ecosystem services have the same root cause- a separation between humanity and the more-than-human world. To repair ecological balance, this relationship also needs to be repaired. Through acts of remediation and restoration- framed in this research as acts of care for the planet, the relationship between humanity and the more-than-human world can be re-formed. Applying an ecological justice framework to remediation and restoration practices can help to reframe these processes. This research presents a conceptualization of ecological justice centered on the rights of nature, nature's agency, recognition of past harms, and the need for reconciliation. This ecological justice framework is further developed through community workshops in two case study communities. The case studies used in this research are riverine systems impacted by forestry and mining. While each community has unique contexts and histories there are broad similarities that provide useful grounds for comparison. Each river has gone through a cycle of industrialization and contamination, followed by a period of renewal. Both rivers now face new threats from the global expansion of data centers and the increasing presences of PFAs. Results from community workshops are presented with discussion on the implications of the findings.

INTRODUCTION

Our relationship with Mother Earth is out of balance. Repairing that relationship is crucial to ecological justice futures. A crucial part of relational healing is healing the scars of industrialization; and framing environmental remediation and restoration as an act of care for the planet. This work theorizes that through these acts of care, we can find new ways of relating to our planet. To explore this theory, a case study process is being utilized to analyze the environmental history of two rivers. The rivers are the Chigami-Ziibiing (St. Louis River in

the US), and the Kymijoki here Finland. In addition to environmental history, the naturecultural context of the rivers are being explored through community workshops and expert interviews.

ECOLOGICAL JUSTICE

The theoretical framing of this research is ecological justice and ecologically just futures. The term ecologically just futures is utilized rather than sustainability, sustainable futures, or even just transitions because the conceptualization of sustainability is still rooted in the nature/culture divide. And more importantly, the culture/economy divide.

In conventional sustainability, we talk about the three pillars or spheres, which, when balanced form “sustainability”. These spheres are commonly regarded as the economy, society, and the environment; the idea being that when the needs of the three spheres are balanced, we can reach sustainability. Ecological justice takes a critical eye to that concept and forces us to ask why the economy is given its own sphere. The economy is a human creation, and its function should be to improve human health and well-being. We will never have ecological just, or even socially just futures when we do not address the fundamental dysfunction of our global capitalistic economy.

The model I am proposing for ecologically just futures is comprised of planetary well-being, the rights of nature and ecosystem services. In this model, we have the coming together of human and nature health and well-being and a reframing of the economy as ecosystems services, which highlights the reality that the environment is the basis of all economic systems, even (and especially) virtual economies. The inclusion of the rights of nature also makes us focus on the right of nature to exist without providing services and regardless of the impact on human well-being.

Elements of ecological justice are commonly considered to include (Grabowski et al. 2022, Pineda-Pinto et al. 2021):

- Distributive- of environmental goods and bads
- Procedural- how nature is included in decision-making
- Retributive- punishment for wrong-doing
- Restorative (which tries to restore relationships to "rightness.")
- Capabilities and agency- ability to participate in processes/society

These aspects are a useful starting point but are still framed in human terms. This research argues that the starting point for ecological justice should be the consideration of the rights of nature. A reframed conceptualization of ecological justice can consist of:

- Rights- protections and entitlements

- Agency- allowing nature to act and function on its own and respecting its natural processes and behaviors.
- Recognition- understanding how nature has impacted human development and how human development has impacted nature
- Reconciliation- is both healing human impacts to nature and changing our relationship to nature.

This approach builds on the momentum of the growing international movement for the rights of nature. Focusing on the agency of nature also takes the focus away from what nature provides for humans and refocuses on what nature needs to thrive. Recognition is a crucial aspect of justice, as it requires an awareness of what has happened to begin to repair the damage. Reconciliation includes not only the restoration of ecological functioning, but also a shifting of how decisions are made and how prioritized nature is in human culture.

CASE STUDIES

Kymijoki

The Kymijoki is one of the largest drainage basins in Finland, and flows through a landscape formed by glaciation. Inner Finland is defined by the Salpausselkä terminal moraine. Sometime between 1000 and 3000 years before present, the Kymijoki began to breach that ridge and find its way to the Baltic Sea.

As humans moved into the area, they found a river rich with aquatic life, like pike, salmon, trout and eel. The plentiful fish of the river encouraged trade – between cultures and across the sea. As a strong mark on the landscape, the river long served as a border between cultural groups, including the Tavastians and Karelians, and after the Peace of Turku, the border between the Swedish and Russian empires.

Both empires also took from the river, the Swedish crown granting fishing rights to monks (which upset the local fishing community) and the Russians establishing an imperial fishing lodge in the lower reaches of the river.

Figure 1

Kymijoki. Nela, n.d.

In the late 1800's the vast pinelands in the river's upper reaches began to be heavily logged. While logging was always part of the local economy, the scale and impact of it began to increase during this era. Along with the industrialization of the forests, came the construction of mills and dams along the river. At the start of the 19th century a series of major floods gave rise to massive water regulation activities within the watershed and across Finland.

Not long after this, in 1940 Kymin Osakeyhtiön (which would later become UPM) was founded. During this period and the time after WWII the exploitation of the river and the forests of the river headwaters increased dramatically. This exploitation drastically changed the landscape of Kymenlaakso. Peatland were ditched and drained to increase forested areas and the practice of floating logs on the river resulted in alterations to the riverbanks and bed.

With the expansion of mills and paper plants, came the development of hydropower dams, which decimated the populations of migratory fish. These mills and plants also deposited their effluent directly into the river, further impacting the water quality of Kymijoki. In 1960, a

sodium peroxide plant in Kuusankoski burnt down, this was the largest single release of dioxins and furans into the river.

In the 1960s and 1970s, as the global environmental movement gained traction, water quality regulations came into force and the wastewater entering the river slowly began to be cleaned. Even with the new protections, it took nearly 20 years for the water quality to begin to rebound. In the 1990s, the chemical contamination of the river began to gather attention, and a massive characterization of the riverbed was undertaken. These studies found the Kymijoki was most heavily contaminated with dioxins and furans (PCDD/F) and mercury in the northern part of the river. After nearly 20 years of studies and planning, in 2011 plans to remediate contaminated sediments were abandoned.

Chigami-Ziibiing

Through a landscape of peatlands and boreal hardwood-conifer forests, the *Chigami-Zibiing* flows from its head waters in the *Misaabe-wajiw* ('Giant Mountain'), emptying finally into *Chigami* (Lake Superior). Where the river meets the lake, a vast estuary forms, teeming with life.

Figure 2

Chigami-Ziibiing Watershed. Kmusser (2010)

It is not surprising then that this area, the estuary, has been home to people since the glaciers retreated. Successive generations of indigenous people have made their homes here, some moving on as times changed. When the Anishinaabeg people came to this land following their prophecies, they found manoomin (the good berry), or the food that grows on water, also known as wild rice.

As white colonizers pushed westward into Turtle Island (North America), *Chigami-Zibiing* became the center of the booming fur trade. The *Chigami-Zibiing*, as cross-roads of aquatic trade routes positioned the Anishinaabeg to be crucial in the coming fur-trade between North American and Europe. Fashions in Europe had an insatiable demand for the pelts of beaver, mink, and otter. (Gawboy, 2024) The decimation of those animals was one of the first major alterations to the landscape of the *Chigami-Zibiing* watershed.

As the fur trade subsided, the timber industry had its way with the forests of the watershed. The physical changes in the forests changed the hydrology and biodiversity of the region. The transportation of the harvested timber also required the development of railroads, and timber floating. The submerged logs and debris from clearcutting impacted the bed and body of the river, and the railroads further impacted the cohesion of the forests.

Along the river, mills and other processing plants were formed, and the ports of Duluth and Superior became even more active. At the same time, the timber industry was expanding, the mining industry also began to develop. Along the western edge of the *Chigami-Zibiing* is the *Misaabe-wajiw* (iron range). In the late 1800s, iron was discovered there, which started the next wave of industrialization in the region.

These mines are also deeply tied to the overall industrialization of the United States, being part of the companies that formed US Steel, the first billion-dollar company in the United States. As these industries grew, more Europeans came to the area, including many Finnish migrants. These Finns are credited with the formation of the unions that helped shape the history of the area.

By the 1940's, concern over the impacts of industrialization on the estuary began to surface. In the 1970's, the Western Lake Superior Sanitary District was formed to treat wastewater entering the estuary. In 1987, the estuary was designated as a Great Lakes Area of Concern.

Renewal- Kymijoki

One of the major improvements to the Kymijoki came about through the treatment of wastewater, and changes in the treatment of timber. As the various mills and plants along the river have closed, this has also brought an improvement in the water quality. Although the remediation of the Kymijoki did not move forward, there have been several projects focused

on the restoration of various habitats along the river. One of the most extensive initiatives has been the restoration of the salmon to the river. Since the native salmon were eliminated from the river, farmed salmon must be added to the river each year. While these salmon have begun to survive longer, there are still no, or limited naturally spawning salmon in the river.

A major barrier to the restoration of salmon, trout and eel population is the vast number of dams across the river. While many of the lower rapids are protected from future hydropower developments, the existing dams present significant barriers to migratory fish. The paper mills originally connected to these dams have closed, or decreased in size, the power generated from the dams has become an important part of the national power grid. These hydropower plants are now also attracting global megacorporations' data centers.

Renewal- Chigami-Ziibiing

The Great Lakes Area of Concern program was an offshoot of the Great Lakes Water Quality agreement between the US and Canada. This program and agreement sought to protect and improve the water quality of the Great Lakes. Once the individual sites were designated, it was up to the local communities to define the boundaries of the areas and develop plans for remediation and restoration.

Starting in the early 1990's several Remedial Action Plans were created as a collaborative effort between the various state, federal and tribal agencies. In 2011, the Great Lakes Restoration Initiative funding became available, and a more comprehensive implementation plan was made. The contamination extent was characterized, and sites were prioritized for clean-up.

The massive clean-up undertaking includes agencies from two states, the federal government, tribal governments and organizations, and a community advisory council.

One of the most complex sites is the US Steel/Spirit Lake site. This massive site was once the location of the US Steel mill, founded in the 1900s to appease Minnesota lawmakers that threatened to tax the iron ore the company was removing from the Mesabi range. The complexity and hazardousness of the site promoted the site to the national priority list, also known as the Superfund list. This site is also the location of the culturally significant Spirit Island, also known one of the final stopping points on the great Anishinaabe migration along the Great Lakes.

This site also highlights the difference of approaches in remediation the various agencies undertake. For the state and federal agencies, the priority is eliminating pathways and the risk to human health. In the Anishinaabe worldview the water and earth herself is sacred and locking those contaminates in her body is an abomination.

COMMUNITY WORKSHOPS

Kymijoki

Through community-workshops, the ecological justice status of the Kymijoki has begun to be be mapped. These workshops introduced participants to the concept of ecological justice, then participants worked together to locate areas along the river that represented those aspects, either positively or negatively.

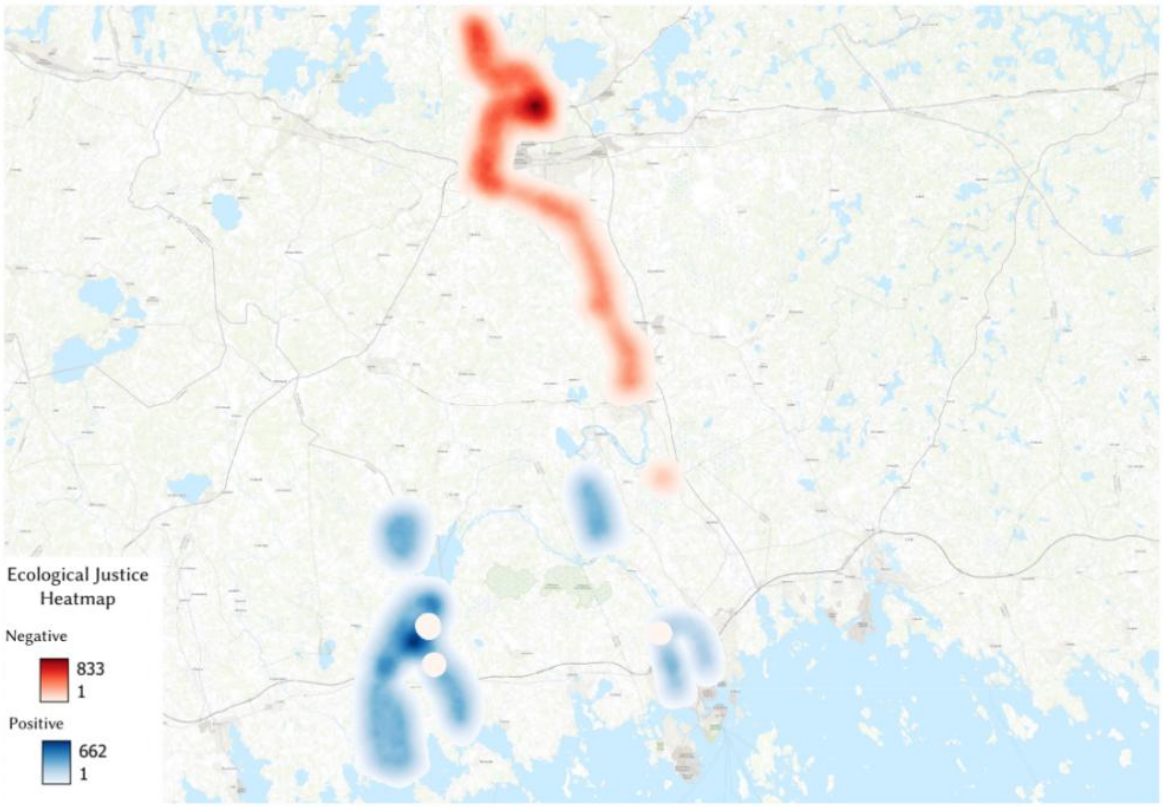

Figure 3
Kymijoki Ecological Justice Hotspots

The results from this exercise clearly shows that participants saw more positive indicators in the southern part, and more negative in the northern part.

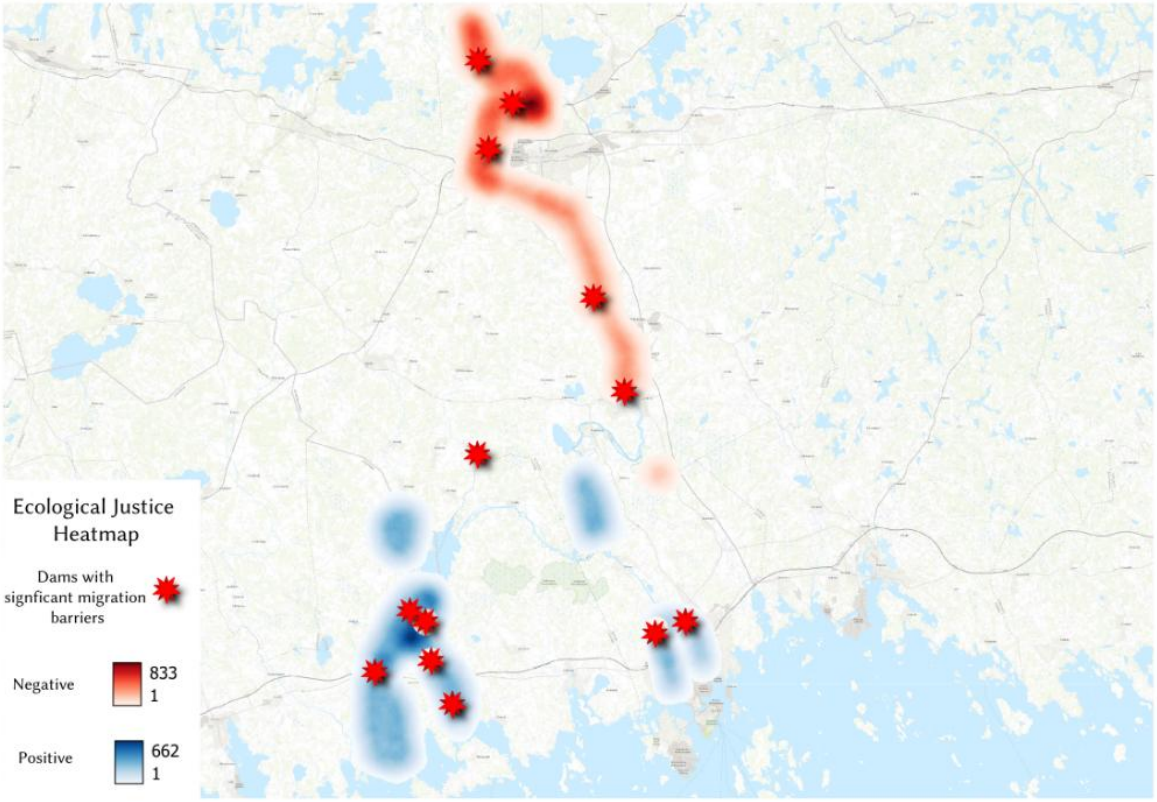

Figure 4
Kymijoki Ecological Justice hotspots and locations of dams

One of the indicators of negative ecological justice was the existence of dams. There are several dams on the river with partial to significant barriers to migration. Participants correctly located several of the dams in the norther part of the rivers, but missed several in the southern part.

One of the positive indicators of ecological justice was the location of protected areas. If we compare the indicated areas again against protected areas, we see there are many areas in the north that weren't indicated, and a few in the southern area that were also missed.

Part of this difference in the perceptions could be traced back to the contamination issues in the northern areas. From the surveys and interviews, it is clear people hold negative perceptions about the river; but there is also a feeling that those perceptions could/should be changed.

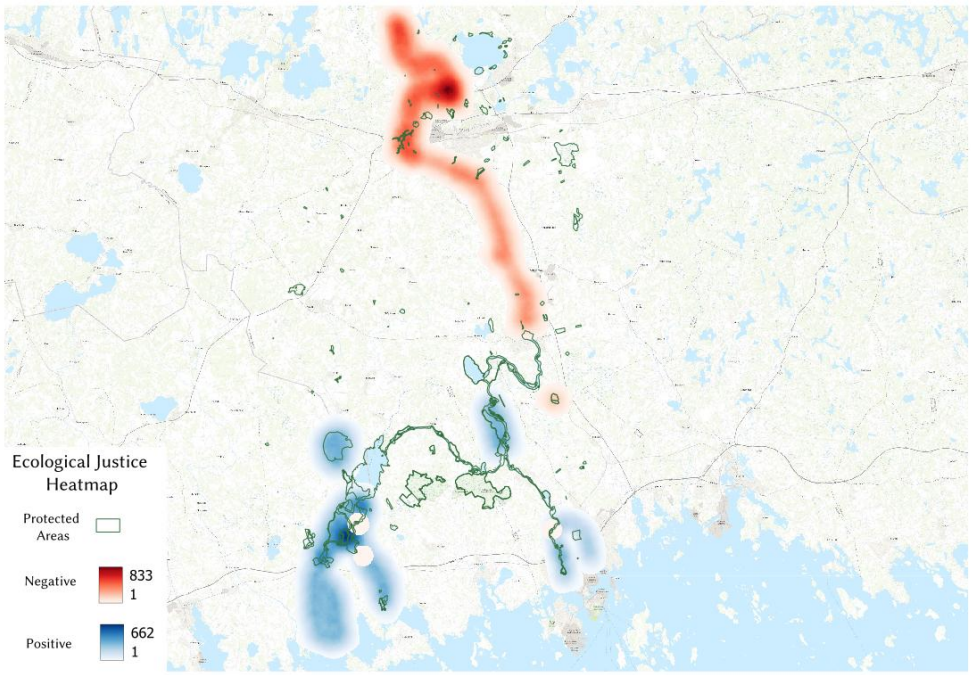

Figure 5

Kymijoki Ecological Justice hotspots and protected areas

Chigami-Ziibiing

Following are the results from the *Chigami-Ziibiing* community workshops.

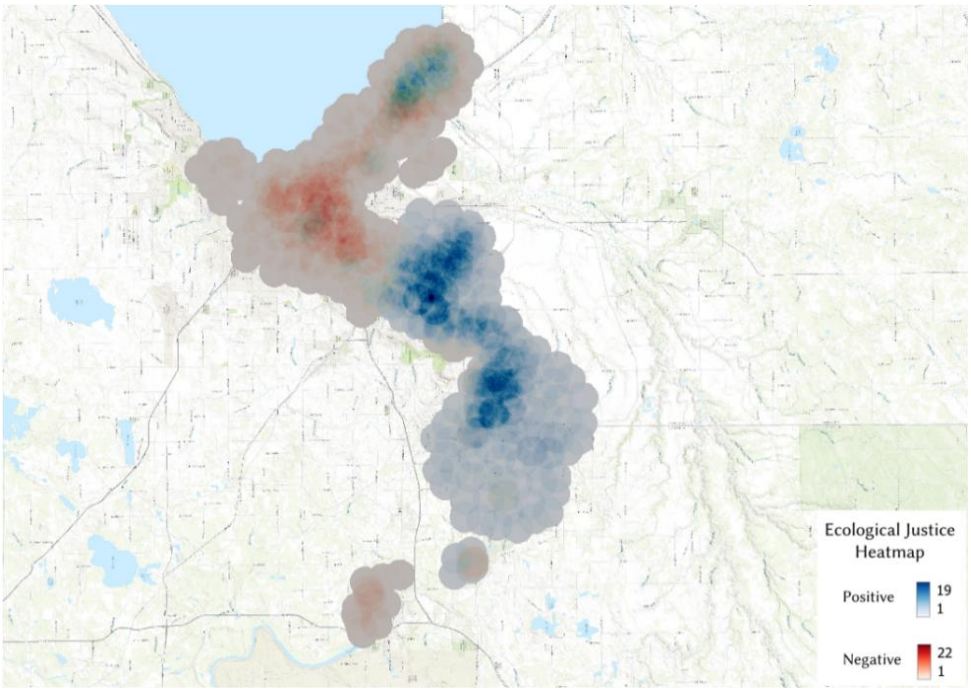

Figure 6

Chigami-Ziibiing Ecological Justice hotspots

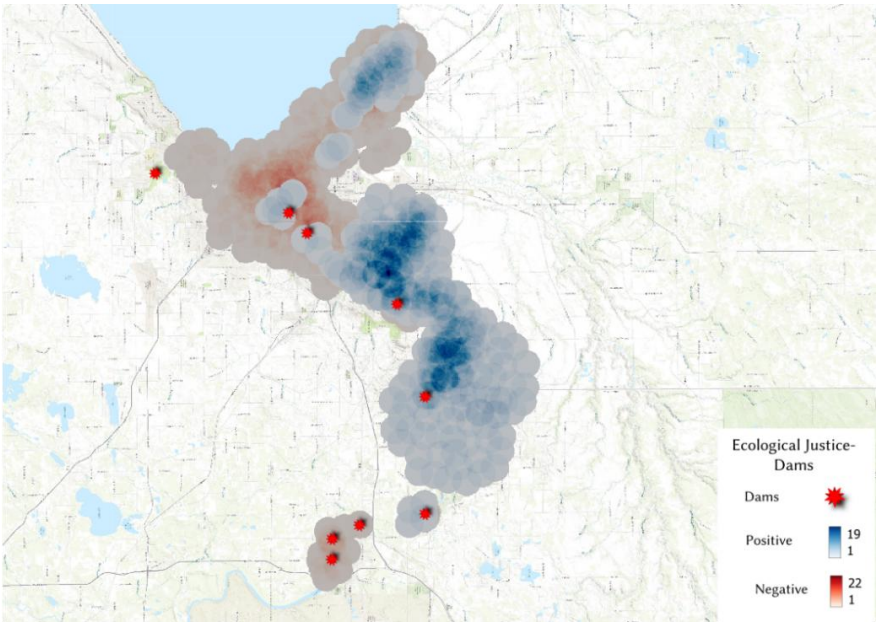

Figure 7

Chigami-Ziibiing Ecological Justice hotspots and dams

Same as the Kymijoki, an indicator of negative ecological justice is the location of dams. The participants in the *Chigami-Ziibiing* workshops located the hydroelectric dams significantly better than the Kymijoki participants.

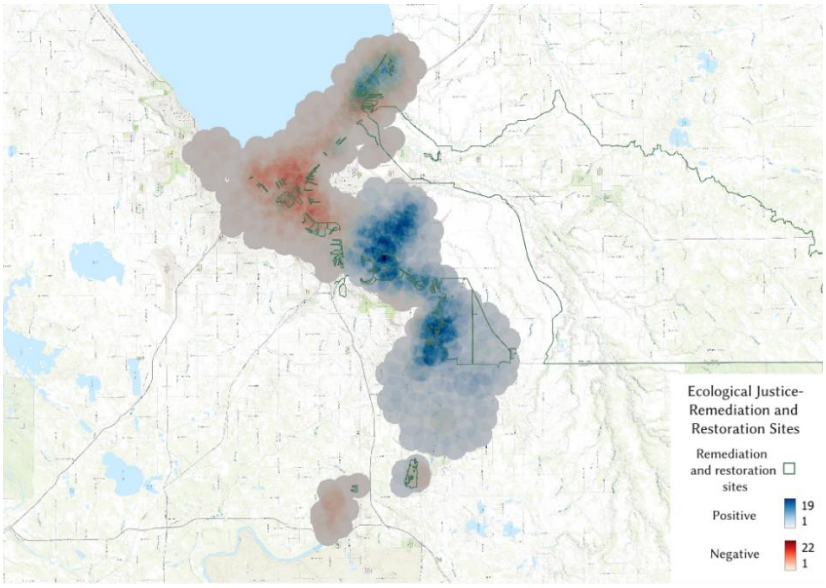

Figure 8

Chigami-Ziibiing Ecological Just hotspots and remediation and restoration sites

One indicator that had both positive and negative connotations was the location of the remediation and restoration sites in the estuary. This is due to some participants seeing the remediation and restoration activities as a positive and some seeing the contamination of the sites as a negative, or a perceived incompleteness of the remediation/restoration activities.

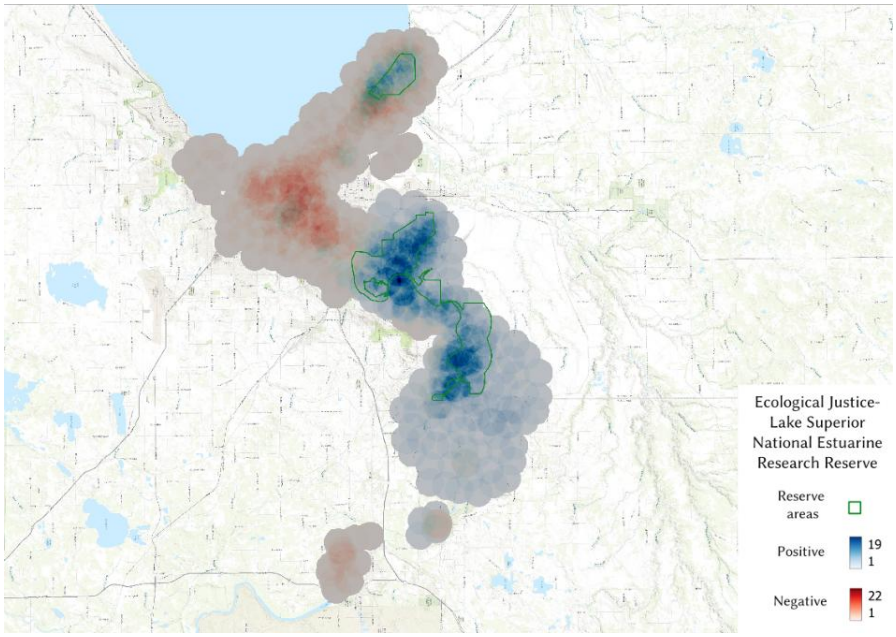

Figure 9

Chigami-Ziibiing Ecological Justice hotspots and the Lake Superior National Estuarine Research Reserve lands

One of the best indicators of positive ecological justice are the areas managed by the Lake Superior Estuarian research reserve. This organization is part of a national system of research reserves and is housed within the University of Wisconsin. They conduct long-term monitoring, and community outreach and educational activities.

It is clear from people's comments and the interviews that Chigami-Ziibiing has really benefited from an active and engaged community of concerned citizens, and the existence of education and outreach activities by the St Louis River Alliance and the Lake Superior National Estuarine Research Reserve. In addition to that, the presence of the Indigenous communities has had an impact on how people are able to view their relationship to the river and responsibility to it. There is also a community, and way of working together that has grown out of the last 20 years of remediation and restoration actions.

CONCLUSIONS

Both rivers play important roles in the history of their communities and nations. Lack of active remediation and restoration projects does not fully explain the negative image of Kymijoki. Rather, it can be understood as a lack of community around the river. The Kymijoki case study also shows a division of agency between employees and community members, with no active citizen action groups in Finland.

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Nelg. (n.d.). English: Topographic map of the Kymi river. The dashed line indicates the passage of the river inside lakes, not as a river stream per se. In the inset map, the lighter area indicates the drainage basin of the Kymi river. [Graphic]. Own work Topography: Elevation model 2 m / National Land Survey of Finland (open data, CC BY 4.0) Labels: Geographic names / National Land Survey of Finland (open data, CC BY 4.0) Drainage basins: Valuma-aluejako / Finnish Environment Institute SYKE (Attribution 4.0 International (CC BY 4.0)) Shoreline, Lakes, Cities: Topographic map 1:250 000 / National Land Survey of Finland (open data, CC BY 4.0) Rivers: Ranta10 - rantaviiva 1:10 000 / Finnish Environment Institute SYKE (Attribution 4.0 International (CC BY 4.0)) Inset map: 1:10m Cultural – Admin 0 – Countries / Natural Earth. Retrieved December 12, 2025, from https://commons.wikimedia.org/wiki/File:Kymijoki_topographic_map.svg

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HUMAN-ICE RELATIONALITIES THROUGH THE LENSES OF ECOPOETRY

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ABSTRACT

The background for this paper is a science-humanities collaborative project (in its preliminary phases) exploring the bio-cultural significance of glaciers. From this standpoint, I ask: what might human-ice relationalities entail and look like? I suggest that one answer, among many possible, revolves around ecopoetry. My premise is that, contrary to the assumption of individual human authorship, an ecopoem is not single-handedly written by the poet, but is instead co-created: it is the outcome of a relationship, an entering into a dialogue through listening, observing, sensing, imagining, tending to, feeling with – and then translating the experience into words. The ecopoetic image or verse emerge in and from an interaction with the world which is affective and relational – a correspondence (Ingold, 2017). Acknowledging the more-than-human as co-creator in the ecopoetic act replaces the exceptionalism of human authorship with relationality and interdependence. Seen through these lenses, ecopoetry becomes a practice and a channel to explore 'more-than-human' relations and possibly gain glimpses into different forms of knowing. The intended contribution of this paper is to argue for ecopoetry as a form of multispecies interaction and a tool to transform our concept of 'knowledge' by affording, through the attentiveness, imagination and affective engagement engendered by the ecopoem, a heightened awareness of more-than-human forms of inhabitation of the planet.

***

> P*oetry calls us to stay awake, to find the words to describe how it feels, to sing to what hurts, to reach out, to attend more closely and with more care, to each other, and to our fellow species, to see all things as our kin* Brigley and Evans (2021, p. 10).

RESEARCHING GLACIERS

The broader context for this paper is a collaborative research project investigating the scientific and cultural-affective significance of glaciers – and their demise. This interdisciplinary project endeavours to combine natural sciences, forensic archaeology, and environmental humanities approaches to explore the bio-cultural significance of glaciers (Gobbi & Gaudio, 2022).

Two-thirds of all irrigated agriculture in the world is likely to be affected in some way by receding glaciers (UNESCO 2025). This alarming data raises broader questions about the cascade effects of glaciers' disappearance for human and nonhuman life, and the planet's ecosystems. Currently there is a relatively poor understanding of these consequences. The project aims to engage with these issues, and more broadly, it aims to try and understand what exactly is lost when we loose a glacier (Varutti et al., 2025a, 2025b).

An environmental humanities scholar, I am specifically interested in the affective and cultural-symbolic dimensions of ice - its role in shaping identities, memories, a sense of place, and site-specific forms of knowledge. I am also drawn to explore how losing ice entails also an affective loss, and a loss of imagination, for the current and future generations. It is important to cast light on the existential costs of ice loss as they are mostly invisible, yet they should be taken into consideration by decision-makers and policy makers (Varutti, 2023a).

More humanities-informed research on glaciers is needed. This is also a timely endeavour, since the United Nations has declared 2025 the International Year of Glaciers' Preservation', and 2025-2034 has been earmarked as the 'Decade of Action for Cryospheric Sciences' (United Nations, 2025).

ICE HUMANITIES

Theoretically, my reflection connects with the field of ice humanities. This is an emerging interdisciplinary field investigating the relations human-ice, to explore, as Dodds & Sörlin (2022, p. 1) phrase it 'life on and with ice'. In this approach ice is seen as a 'social and material composite' that is in constant elemental transformation (ice is constantly shifting: melting, freezing, calving, cracking...) and in the process, it's affecting and transforming human and nonhuman entities (flora, fauna, geology, climate). At the same time as there is all this vibrancy, there's also another facet of studying ice. On a warming planet, studying ice means study something that is literally disappearing under our eyes. So the research is necessarily inflected by themes such as uncertainty, vulnerability, loss and grief.

Because I am interested in an affective perspective, I approach ice as lying at the core of a nexus of affective relations, which ice (in its presence or in its absence) contributes to sustain

and transform. It follows that my main proposition is the following: we do need to have some kind of relationship with ice, and some kind of response to its demise. We cannot continue to be indifferent (Varutti, 2025). The problem, as I see it, is that if we don't have a relationship with ice at all (and most of us don't, unless we live at high latitudes or high mountain areas) how can we create a relationship? How can we begin to be more aware – if not responsive, and caring?

RELATING TO ICE THROUGH ECOPOETRY

I suggest one of the many possible ways to establish a relationship with ice is through ecopoetry. Ecopoetry is poetry that has environmental messaging (see Walton, 2018). It aims to engender ecological awareness in readers, and it does so by evoking affective engagement (Varutti, 2026; 2023b). As a language, we know that poetry is evocative and lyrical, and also very, very precise, condensed, distilled to the essence. In addition, poetry is also intimate, it often bypasses cognition and rationality, to speak directly to our emotional self and to our imagination. In the realm of environmental communication, poetry's ability to reach the emotional self is extremely valuable.

Emotional messaging is indeed powerful. Studies in ecopsychology show that emotions empower ecological messaging. For instance, emotions make the effects of environmental messaging last longer (Goldberg 2023). If we extend these findings to ecopoetry, where we see ecopoetry as a particular kind of environmental communication, we see that the more the ecopoem engenders emotional responses, the higher its ability to communicate the environmental urgency. And indeed, I suggest to *think of ecopoetry, as a kind of affective training : we can learn to emote through ecopoetry, through the repeated acts of reading and writing it.* Learning to connect emotionally with the more-than-human world is a skill: studies in the field of affective ecology (Barbiero 2021) indicate that we can learn to connect with Nature, building on our innate Biophilia.

These insights cast a new light on ecopoetry. Ecopoetry is not just a literary genre, but it can be a powerful pedagogical instrument that helps us *cultivate* an affective relationship with the world. Elsewhere (Varutti 2026) I have drawn on the work of UK poet laureate Simon Armitage to illustrate these propositions. In 2023, Armitage published the pamphlet *Cryosphere* which gathers a set of poems written in occasion of Armitage's visit to Ny-Ålesund, in the Svalbard archipelago. Examining the poems in the Cryosphere collection led to the identification of a series of linguistic strategies and tools that ecopoetry deploys in order to engender an emotional response in the reader and create a connection with the 'more-than-human' world of the Arctic. They include, among others, individuation, bearing witness, and invoking vulnerability (see Varutti 2026). These insights cast a new light on ecopoetry. Ecopoetry is not just a literary genre, but it can be a powerful pedagogical instrument that helps us *cultivate*

an affective relationship with the world. Importantly, some of these linguistic tools can be applied beyond poetry, to wider contexts of environmental communication, where the aim is to elicit an emotional response.

ECOPOETRY, THE 'MORE-THAN-HUMAN', AND UNSELFING

I have argued for ecopoetry as a tool to create and uphold a relationship with the more-than-human world, and notably with ice. Engaging with ecopoetry in this way, can have a series of implications. Firstly, it may change the way we think about poetry, as we come to see that ecopoetry is much more than just a literary genre, it can be a tool for ecological pedagogy and ethical transformation. Secondly, it may change human relations to the more-than-human through affective engagement and unselfing. Ecopoetry brings us into a different position in relation to the 'more-than-human'; we are no longer external observers, but through the ecopoem we learn to be affected, and therefore we become participants. This is also an ethical stance; we are no longer self-centered, but we begin the work of 'unselfing'. I borrow this concept from philosopher Iris Murdoch (1970: 369), who defined unselfing as "to give attention to nature in order to clear our minds of selfish care." I see unselfing as a step towards learning to relate differently.

Thirdly, engaging with ecopoetry can also change our idea of 'knowledge' at large. From this position of unselfing, we begin to enter into a conversation with the 'more-than-human', a conversation that acknowledges our mutual interdependence and inevitable constant collaboration. This can have much broader implications in terms of reframing the very idea of knowledge: because from here, from this position of unselfing and awareness of interdependence, we can begin to ask new questions about knowledge and ice. Such as: what does ice 'know'? How might this 'knowledge' be accessed? (How) might the unique features of ecopoetry (its multisensory, embodied, imaginative and affective registers) open pathways towards different ways of knowing and different forms of knowledge? How might this affect (challenge, enrich, transform) other forms of knowledge, such as scientific knowledge – calling perhaps into question the very concept of knowledge itself? And what does it take, ethically, to recognize a different form of knowledge as knowledge? In other words, what does it take to rethink our human-centered idea of what knowledge is, and who and what it is for?

The Anthropocene calls us all, but especially us in academia, to try and experiment with these kinds of ontological shifts and imaginative exercises which may help us reframe the very notion of knowledge, and the hierarchies we attach to different forms of knowledge. And by doing so, we can begin to revise the ethical values that underlie those conceptualizations and hierarchies – which I believe is one of the core challenges of our times.

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MAKING WITH MULTISPECIES ART

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ABSTRACT

This paper explores the potential of multispecies art – referring to works made with, rather than of or about, more-than-human beings – in cultivating new ways of knowing, being, and doing, amid the ethico-political and ecological emergencies of the Anthropocene. Focusing on the curious, joyful and surprising encounters that multispecies art renders possible, my ongoing doctoral research builds on long-term collaboration with Finland-based multispecies artists, through a participatory research practice I call *making-with*. Drawing from a *love ethic* composed by feminist theorist bell hooks (2001), making-with builds on principles of care, commitment, trust, responsibility, respect, and knowledge, from a multispecies perspective. Multispecies love ethic means living and working together without aiming to smooth out differences and remaining attentive to the otherness of the other. In these processes, alternative ways of knowing become essential. While western scientific tradition teaches us to observe other species from the vantage point of human exceptionalism, a multispecies approach seeks to learn from and with our more-than-human research partners. What could our companions teach us if we learned how to listen?

MAKING-WITH

This paper examines the political potential of *multispecies art* in cultivating new ways of knowing, being, and doing, crucial for "staying with the trouble" (Haraway, 2016, p. 1) of the Anthropocene. By multispecies art, I refer to artistic projects that are committed to working with more-than-human beings, rather than reducing them to the plane of representation (Vepsä, 2022a; see also Boyd, 2015). Making art *with,* rather than *of* or *about* other species, challenges anthropocentric notions of mastery and agency in artistic processes, as well as interspecies relationships more broadly.

Art historian Katve-Kaisa Kontturi (2018) argues that the political potential of art is "not only inseparable from but synonymous with each work of art's unique material-relational movement, through which art suggests new ways of thinking and being" (p. 24). Following this potentiality, she states, demands a shift from the dominant field of representation towards the production of art and its material becoming: Instead of trying to find a so-called meaning behind a particular artwork through prefixed cultural interpretations and narratives, one should follow the way the work *works* in its singularity. In other words, the researcher should move with the work and open themselves to the possibility of both affecting and being affected. (pp. 9–13)

I follow Kontturi's suggestion in my approach to multispecies art. Rather than viewing works of art from the detached perspective of traditional research roles and hierarchies, where the object of interest is separated from the researcher, my research involves actively participating in the processes of art in the making. This entails long-term, extensive collaboration with artists and other human and more-than-human participants. Drawing from the various frameworks of *with-ness* developed particularly within feminist posthumanism and new materialisms (e.g., Chen, MacLeod & Neimanis, 2013; Haapalainen, 2020; Haraway, 2008, 2016; Kontturi, 2018; Puig de la Bellacasa, 2017; Ylirisku, 2021), I refer to this collaborative approach as *making-with*. Instead of a fixed method, making-with is a situated, material-affective process in which art and research merge in exploration, experimentation, and mutual learning. In this process, alternative, multispecies ways of knowing become essential.

As multispecies ethnographer Deborah Bird Rose (2013) has stated, when research is committed to ethical encounters between living, embodied beings, understanding depends on stories. In my view, multispecies art and research are modes of storytelling that can help one understand more-than-human worlds better and cultivate alternative ways of knowing-, being-, and doing-with. Next, I will share two short stories about encounters in multispecies art projects I have participated in within my ongoing doctoral research: a garden installation *Performative Habitats* (2021–) by artist Egle Oddo, and *Snout-Led Sensory Walk* (2024) by artist Oona Tikkaoja and her companion dogs, Whippets Pika and Spock. With these stories I examine the alternative, more-than-human ways of knowing that my work with these projects has taught me through reciprocal practices of love and learning.

PERFORMATIVE HABITATS

Egle Oddo's[5] *Evolutionary gardens* are living sculptures that function as spaces for encounters between plants, people, and other critters. In these gardens, the artist plants wild and cultivated species together, with the idea that, with time and space, they could naturally evolve, change, and drift, hopefully creating new biotic assemblages. Every garden is an ongoing process of multispecies entanglements, where plants, worms, insects, microbes, and other creatures take part in the becoming of the work. These gardens become protected areas for biodiversity and multispecies encounters beyond human mediation or interference. (Oddo & Adragna, 2022)

I first encountered one of Oddo's *Evolutionary gardens,* an installation called *Performative Habitats,* when I started my internship at the Mänttä Art Festival in May 2021.[6] As I have earlier described (Vepsä, 2022b), not much grew there yet that time of the year, and there was nothing extraordinary in the scene. But something drew me in immediately. So, when Oddo asked if I wanted to help her with the work, I rolled up my sleeves and "jumped right into that wormy pile", to borrow feminist theorist Donna Haraway's (2016, p. 32) words. As the spring hesitantly turned towards summer, my curiosity grew with the garden. Slowly, new plants started to appear, and I wanted to know all about them. So, I did what I was taught to do: I turned to books. I bought a bunch of botanical books and carried them with me to the garden. I kept asking Oddo the name of every new plant I encountered, and she answered my questions patiently. But I soon realised that she did not know everything either. She told me things like, "I do not remember the name, but this plant makes the most beautiful flowers", or "I do not know what it is called, but it is familiar to me, and I know what it needs." She invited me to smell the plants, to touch them, and observe their growth. But I kept reading the books. Old habits die hard.

5 Egle Oddo is an artist based in Helsinki, Finland, who is dedicated to long-term and context-based projects. Her work focuses on linear and non-linear narration as an art form. Interested in operational realism, meant as the presentation of the functional sphere in an aesthetic arrangement and its inter-relations, she combines photography, moving image, installation, sculpture, environmental art, and experimental live art. Oddo has been researching plant seeds, vegetal consciousness and agency, and plant imagery since 2007.
6 Mänttä Art Festival is an annual contemporary art exhibition in Mänttä-Vilppula, Central Finland.

Figure 1

Suvi Vepsä at Egle Oddo's site-specific installation Performative Habitats, August 2021. Photograph by Julia Räsänen

In her book *Braiding Sweetgrass – Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants,* Potawatomi botanist Robin Wall Kimmerer (2013) describes a similar experience. As a botanist, she was trained to approach nature with the "reductionist, mechanistic, and strictly objective" tools of science (p. 42). This scientific worldview was, however, in conflict with the one she had grown up with. As a member of the Citizen Potawatomi Nation, she had been taught to embrace plants as our companions and oldest teachers. According to the indigenous understanding, Kimmerer explains, plants have been living on this planet much longer than we have and thus, they know a lot more than we do. Describing the experience of almost forgetting this at the beginning of her academic career, Kimmerer writes: "I was teaching the names of the plants and ignoring their songs" (p. 43).

I had not yet learned to listen to the songs of the plants. But eventually, my questions changed. I turned towards the plants, sat down to smell them, to touch them, to observe every detail. I felt the coldness of the ground underneath me and the warmth of the sun on my face. The garden would answer my questions in its own way, which, most of the time, is not obvious or immediate. I have known the garden for four years now, and the answer is still only forming. I am still reading the botanical books, to get to know my friends a little bit better. As Kimmerer (2013, pp. 252, 345) reminds us, science, too, can help us form intimacy and respect with other species. But that alone is not enough. Learning from and with the garden demands more caring knowledge, and care comes from somewhere else. It comes from paying attention, listening, and making-with.

Collecting information and gathering data without care, responsibility, and respect only reinforces the Western anthropocentric worldview of dominance and control (Kimmerer, 2013, p. 346). This is not only an issue of natural sciences. The humanities, too, were born into the same arrogance: the ideals of neutrality, objectivity, and rationality. As an art historian, I, too, must consciously learn to let go of the fantasy of knowing it all. Indeed, as curator Taru Elfving states in her essay with artist and researcher mirko nikolić (2018), writing with art in a more responsible and caring way, that is, in a way that decentres the human-researcher as a subject of mastery and control, requires not-knowing. It requires "responding to the persistence of unknowability and holding onto the wonder that precedes attempts at understanding" (p. 31). The biggest thing I have learned from the garden is to be patient, to accept the limits of my knowledge and perception, and to remain curious. My focus is no longer on the meaning of it all, but the feeling of it all: being, learning, and making-with the garden. I have carried this knowledge outside the garden, too. Now, whenever I encounter a species new to me, I greet them with curiosity: "Who are you, and what do you wish to tell me?"

SNOUT-LED SENSORY WALKS

In the fall of 2024, I took part in artist Oona Tikkaoja's [7] multispecies art course *Kuljeskelutaidetta koiran kanssa*[8], which took place in a small urban forest in Turku, Finland. The course was comprised of three meetings with Tikkaoja, Whippets Pika and Spock, and four

7 Oona Tikkaoja, based in Turku, Finland, is an artist, pedagogue, and animal-assisted coach interested in working with diverse people and animals. Her practice includes different forms of public and social art. In her multispecies art projects, she collaborates with her companion animals – Whippets Pika, Spock and Lelle, Finn horse Valo, and Shetland pony Iitu – offering open art courses to various people under the name *Kulttuurieläin* ("Animal of Culture").

8 The name could be translated as *The Art of Wandering, With Dogs.*

human participants. The meetings focused around exercises called *Snout-Led Sensory Walks*, which Tikkaoja (2024) describes as follows:

> The human participants let the dog guide them around the area. They observe where the dog takes them and consider what is interesting from the dog's point of view. If there are several dogs, they are assigned to the participants. This brings a new layer, as we can observe their mutual choices of direction and pace. Humans are not allowed to talk during the walk because that would disturb their concentration. The length of the walk can be anything. I have noticed that 20 minutes is proper for concentration. (p. 19, tr. SV)

Tikkaoja defines this exercise as an observational play between people and dogs, based on different senses. By offering both an opportunity to step out of their habitual ways of understanding time and space, the exercise encourages creativity and activates a potential for alternative ways of moving, sensing, and knowing with the environment.

Figure 2

Pika and Spock at Oona Tikkaoja's Snout-Led Sensory Walk, September 2024.

The following text is an excerpt from my research diary (2024), describing the first meeting of the course:

> Following the dogs is not always easy. They do not understand that our bodies are different, that it is harder to climb the hills with two legs and slippery shoes instead of four sets of claws. I try to be careful not to slip and fall on the wet rocks that the dogs hop on and off so effortlessly. Like the dogs, I keep my gaze tightly on the ground, losing all visual coordinates.
>
> We drift off the paths often, pressing our footmarks in the untouched softness of the ground. The low-hanging spruce branches that the dogs pass under without trouble whack me in the face if I do not bend my body into weird positions to dodge them. The softness of the forest floor has absorbed rain like a sponge, my body shivers as its coldness seeps through my shoes.
>
> I pick up a pile of moss detached from a rock Spock was smelling a second ago and wonder what the dog knows that I do not.

This very short exercise already changed the way I experienced the forest. Since movement is a significant part of how we perceive our environment, following the footsteps of Pika and Spock gave me a glimpse of a different perspective. Because walking on an uneven, slippery ground required me to look carefully where I step, the information I gained from my surroundings was based mostly on hearing, touch and smell. Humans tend to prioritise vision over other senses, so having to walk with my eyes on the ground pushed me towards unhabitual ways of experiencing the environment. As my notes show, such a shift can open one up to new ways of knowing but also take them to the limits of their knowledge. Similarly to the case of *Performative Habitats,* here, too, I faced the wonder of more-than-human worlds out of my reach.

In his book *The Wake of Crows – Living and Dying in Shared Worlds,* environmental philosopher Thom van Dooren (2019, p. 8) emphasises the plurality of more-than-human worlds. He argues that all of us, humans and nonhumans, as individuals and collectives, inhabit and share multiple worlds that collide, enmesh and interact, but always only partially. To talk about worlds in plural, van Dooren states, dismantles the western understanding of objective and unchanging reality. Although we are all entangled in one way or another, the ways humans experience and make sense of the world differ from the ways dogs do, and our experiences differ a lot from those of plants, for example. Multispecies art is a creative way to map the *contact zones* – a term used by Donna Haraway (2008) – between these worlds.

MULTISPECIES LOVE ETHIC

These little stories about multispecies art practices show that being, doing and knowing are inseparably intertwined with each other and, as feminist philosopher Karen Barad (2007, p. 185) states, also inherently connected to ethics. Making-with exemplifies this kind of ethico-onto-epistemology, where theoretical knowledge is produced in and entangles with practical, affective encounters. Universal moral principles do not work here: ethical questions must be negotiated in situated practices of response-ability. Who do I truly encounter when I encounter this being? What does this encounter mean for both of us, and what does it demand from us? To approach these questions, I have turned to the material-affective politics of a practice called *multispecies love ethic*.

In her book *All About Love*, feminist theorist bell hooks (2001, pp. 4–5, 76, 94) calls for a *love ethic* as a guiding principle to transform our relationships with each other and the world. In her quest to demystify love for more sustainable interpersonal and societal relationships, hooks argues for an understanding of love as intentional action that entails care, commitment, trust, responsibility, respect and knowledge. As hooks reminds, living by love ethic is not only private action, but a collective, political one, that carries the potential to dismantle structures of domination and oppression. In their collaborative writing, philosophers Michael Hardt and Antonio Negri have reached a similar conclusion, arguing for the reintroduction of love into political action and theory. In their book *Commonwealth,* Hardt and Negri (2009) describe love as "an ontological event, in that it marks a rupture with what exists, and the creation of the new" (p. 181). They see love as a transformative power that produces new subjectivities, new societies, and new worlds.

While the abovementioned writers focus mainly on human relationships, their arguments for love can, in my view, be extended also to multispecies relationships. Philosopher Vinciane Despret (2004) has written about love as a shared experience between multispecies partners in research, stating that learning to love and care for one another is not the result, but the condition for good science. According to Despret, loving the more-than-human beings we work with means recognising them as subjects in encounter rather than as objects of our action and observation. This realisation inevitably comes with the understanding of the unconquerable otherness of the other: something always remains out of our reach. As Haraway (2003, pp. 48–49) writes in *Companion Species Manifesto*, the recognition of difference, not as a mute barrier, but as an invitation to become curious about the other, is the key to all ethical relating in multispecies relationships. In their conceptualisation of love as political power, Hardt and Negri (2009, pp. 182–184) also emphasise this aspect: according to them, a good, ethical love should always aspire to proliferate differences, not dismantle them.

It is precisely here where the transformative ethico-political power of love lies: in reaching towards difference, and a willingness to learn. That is, a willingness to be changed in an encounter with the other, through practices of care, commitment, trust, responsibility, respect, and knowledge. As I have shown, multispecies art can become a platform for such

learning: creating and testing new ways of knowing, being, and doing. Curiosity – the desire to know more about the other, with the recognition that this knowledge will always remain partial – is the driving force of making with multispecies art.

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FIREWEED STORIES OF MORE-THAN-HUMAN SURVIVAL

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ABSTRACT

The interest in so-called "wilderness survival skills", such as how to make fire, identify wild plants, or build a natural shelter, is surging in response to global socioecological emergencies and more grounded concerns for safety in outdoor activities. The problem is that by focusing on an individual who must fight nature alone or survive through an approaching collapse, the survivalist discourse feeds into anthropocentrism, neoliberal individualism, and environmental defeatism. This contribution to the symposium aims to examine, unsettle, and rethink survivalism, as it is manifested in outdoor education and recreation, by grounding it in relational more-than-human concerns. To assist me in this task is fireweed – a perennial plant that has a lot to teach about "more-than-human survival". Fireweed is known for its love of environments that are disturbed and damaged, for example, by forest fires, clear cuts, railway infrastructure, and explosive weapons – coming in and repairing soil for other species. At the same time, its health-related benefits have also been historically emphasized in the myths and stories of Indigenous and land-based cultures, and today – in the surging interest in wild foraging and natural medicine. Drawing on Anna Tsing's ideas on collaborative survival in capitalist ruins and Michael Marder's "plant-thinking", along with my own experience of organizing fireweed tea ceremonies, I present some lessons that fireweed has to offer to the naturecultures research and to more relational practices in wilderness survival skills education.

THE PROBLEM OF SURVIVALISM

For the past five years or so, I have been living a double life. By day, I have been working as a researcher and university teacher at a business school with an interest in environmental

ethics, human-nature relations, and post-growth economies. By night, or when not sitting at my desk or lecturing in a classroom, you would likely find me in the forest learning and teaching what some may call ‘wilderness survival skills’.

The interest in wilderness survival skills like how to make fire by friction, build a natural shelter, identify wild edible and medicinal plants, track wildlife, make traditional crafts, and more, seems to be on the rise within Nordic outdoor recreation and education. I do not have numbers to back up this claim, but there are many books, courses, and guided activities on the topic, and all courses that I personally have been involved in have always been fully booked. There might be many reasons for this interest. It might be a response to global socioecological emergencies and geopolitical tensions, or simply a need to make outdoor activities safer and more enjoyable. To some even, this might be part of a personal project to withdraw from the growth-techno-capitalist society and experiment with alternative, ecological lifestyles (e.g., Pike, 2018; Vlasov, 2025).

As an aspiring wilderness guide and instructor, I see many positive aspects with this trend, including new opportunities for people to reconnect with non-human ecologies. As a researcher, however, I cannot help but worry about the possible risks with the survivalist discourse that surrounds contemporary interest in these kinds of skills.

Western societies have long been fascinated by survival skills – from the first colonial expeditions that learned from Indigenous peoples to improve their own settlement and warfare; to more recent portrayals of survivalism in popular culture (Fenton, 2016). You might be familiar with an image of a lone survivor fighting against the fierce forces of nature to make it back to the comforts of civilisation. Such ‘entertainment survivalism’, as Lisa Fenton (2016) calls it, can reproduce the prevailing fear of nature in modern societies where human survival is put in competition with the untamed forces of ’wild nature’. Moreover, the survivalist discourse tends to focus disproportionately on the survival and self-sufficiency of an individual. While it is certainly good if an individual can feel that they can take care of their own needs in an extreme situation, the individualistic notion of survivalism becomes problematic when it is amplified through neoliberal capitalism and consumerist culture (Lavi et al., 2024). Today, the outdoor and tourism industries are eager to satisfy the deep longing to reconnect with nature by marketing survival gear and exclusive survival courses and experiences in exotic destinations, contributing to the already immense ecological footprint of outdoor recreation. Finally, the survivalist discourse also manifests itself through prepping culture. Do not get me wrong. Preparing for a possible collapse of civilisation might in fact be a much more sober response to the ecological realities than the dominant policies of climate denial or technological optimism. The problem is when environmental defeatism takes all energy from any kind of action for the earth (Katz-Rosene & Szwarc, 2022). No more fighting to save the remaining living ecosystems, no more search for alternative post-growth futures – survival is the only thing we have left, full stop.

For anyone concerned with a truly sustainable transformation, the discourse of survivalism should raise concerns. It can reinforce anthropocentric, dualistic, and individualistic perspectives on human-nature relationship that generate ecological crises to begin with. After all, climate change, biodiversity loss, and other environmental problems are all relational crises, signifying the separation between humans and between humans and the rest of nature (Rantala et al., 2024; Walsh et al., 2021).

Can we then envision a different approach to survival skills that works to repair this broken relationship?

SURVIVING WITH MORE-THAN-HUMAN KIN

Having in mind the discursive baggage that comes with 'survival', in addition to the already problematic concept of 'wilderness' (Vannini & Vannini, 2016), I never use 'wilderness survival skills' myself to describe my work. Yet, in the spirit of an academic experiment, I want to hold to 'survival' a little longer. After all, it is a powerful word that reminds us humans of our basic needs and vulnerabilities. In the Anthropocene, it also comes as a warning that modern societies can no longer take for granted all those comforts that they have grown to hold so dear.

In my new research project, I want to critically examine, unsettle, and rethink the idea of survival, as it is manifested in Nordic outdoor education and recreation, by grounding it in relational more-than-human concerns. My inspiration comes from the *relational* ontological, epistemological, and ethical perspectives found at the intersection of Indigenous and Western thought. This includes the ideas of reciprocity, new animisms, and kincentric ecology that are attributed to Indigenous knowledge (e.g., Harvey, 2017; Kimmerer, 2024; Salmón, 2000); along with other post-anthropocentric inspirations like deep ecology (Næss, 1989), ecofeminism (Plumwood, 2002), and more recent developments in environmental humanities that decentre human agency for a more-than-human perspective (e.g., Neimanis, 2019; Puig de La Bellacasa, 2017; Rantala et al., 2024).

When referring to 'surviving with more-than-human kin', I want us to draw attention to the entanglement of human and non-human vulnerabilities, interests, and agencies in the collective endeavour that is survival. It is a very simple idea that humans cannot truly survive without making kin and living in reciprocity with non-human ecologies. But the ambition here is also to decentre human survival altogether as the exclusive and primary matter of concern. It is important to remember that humans and non-humans alike are already living in a survival situation that is the ecological crises – and in some places of the world, this is much more pronounced than in others. The production of fossil fuels continues to hit new records, climate is warming, new mines are being opened, more forests are being cut, there is PFAS in the

water, and the brains of fish and humans alike contain microplastics. Learning to confront these dark ecological realities is an important skill too, at least if we want to survive *in* the capitalist ruins (Tsing, 2021), and hopefully also find alternative ways to live *against* them.

FIREWEED STORIES OF MORE-THAN-HUMAN SURVIVAL

My search for a more relational approach to survival has only started. The plan is to start with an explorative study based on interviews and observations with professional guides and instructors who work with wilderness survival skills in the Nordics, focusing on the ethical, philosophical, and pedagogical aspects of their work. Another is to develop, test, and critically evaluate new approaches to teaching and guiding learning experiences in survival skills that are based on relational more-than-human ethics.

In this contribution, I want to share one experiment that is part of this emerging exploration – fireweed tea ceremonies that I organized this year. The ceremony invites a group of participants to gather around a fireplace, or a hearth, which has served as a special place for sharing stories and community life for a long part of human history. The fire is then started by friction, using a bow drill method, as a way of giving respect to an ancestral survival skill that requires local ecological knowledge and collaboration with non-human companions, including trees and plants that provide necessary materials for the fire kit. Once the fire is burning, a sooty kettle is put on the fire to boil. This is going to take a while, so I would use the time to tell stories – imagined and real – that involve the main host of the ceremony – the fireweed (Fig.1).

Figure 1

Fireweed thrives in disturbed places like forests after a fire. Image credit (creative commons): https://www.flickr.com/photos/bluecanoe/3857160534

Just as Anna Tsing (2021) uses the matsutake mushroom to show how life can thrive in the capitalist ruins, I find that fireweed has a lot to teach us about survival in the north amidst the changing climate, geopolitical tensions, and increasing pressures on natural ecosystems from techno-industrial development. Fireweed is a survivor-plant that seems to thrive in disturbed and barren places. Its North American name comes from the tendency to rapidly populate areas burned by fire. In England, it was once known as "bombweed" because it brought first colour to the grim, devastated landscape scarred by bomb craters after the Second World War. In Sweden, it goes under the name of "rallarros" (rallare=railway engineers, ros=rose), referring to its abundance along the railway lines. Clear-cuts, which proliferate in the Nordic forest landscape, are another place to find it.

Once fireweed arrives to a disturbed place, it works to stabilize the soil. Its roots spread deep, cracking through rocks to pull the minerals up from the earth, and they spread wide underground in rhizomes, sending new shoots in all directions. Each plant can have up to 500 tiny seeds with silky hairs that can fly long distances to allow even further dispersal. One plant is suddenly a sea of pink and purple. Being one of the first visitors, it does the necessary repair work so others can move in.

At the same time, its historic uses signify repair and survival also in cultural ways. Root and pith were widely used as a survival food by many Indigenous peoples in the north. Young shoots in the Spring are rich in vitamins and are a delicacy with a taste and consistency of asparagus. Flowers attract bees that produce high-quality floral-tasting honey, and today some make jelly and syrup from the flowers too. You can also make rope and fabrics from the fibres of fireweed. I even heard from an anthropologist friend that the Tlingit people of the Pacific Northwest Coast have a myth about the First Woman who weaved a blanket from fireweed fibers and covered the Earth with it, while singing songs to ease the pains of the Earth giving birth to all life. These sorts of myths and stories are not surprising given that the fireweed was traditionally valued for its anti-inflammatory, anti-bacterial, cleansing and soothing properties – many of which are now being checked and proven by modern medicine too.

Fireweed has been widely used for tea. One can make tea on fresh and dried leaves but fermenting the leaves before drying gives a much richer taste. The fermented fireweed tea is well-established in Russia, where it is known as "Ivan chaj". It was consumed there long before the black tea came into the picture, and there is also some evidence that in the 18-19th centuries, fireweed tea was produced industrially and exported to Europe until the Chinese and the colonial British tea empires took over. It is known for its pleasant taste and smell, a wide range of health benefits – and it is caffeine free too.

Figure 2

Left: Fireweed tea ceremony starting in Stadsskogen, Uppsala. Right: A cup of fireweed tea. Photograph (left) by Jasmine Zhang and photograph (right) by one of the participants shared this image on their social media after the event

It is this tea, made of fermented fireweed leaves foraged at the edge of Umeå in northern Sweden where I live, that we taste during the ceremony (Fig.2). By using stories and tea tasting, my approach here is to treat fireweed not simply as an object of observation but as a collaborator, teacher, and importantly – storyteller. Drawing on Michael Marder's (2013) ontology of plant-thinking, I work from the idea that plants think in their own way – non-cognitively and without a head - and that human thought can be transformed by engaging with this vegetal mode of existence. This approach of course involves a challenge of navigating between the anthropocentric thinking *about* plants that may distort vegetal life and attempts to think-*with* and even *through* plants where engagement with vegetal existence de-humanizes and renders thinking more relational, processual, and open-ended (Marder, 2013). While in our culture, 'plants are habitually viewed as mute living beings' (Marder, 2023, p.189), Marder suggests that they 'not only silently tell us something (indeed, a great deal) about themselves and the world, but also that they tell stories, rendering witness accounts about life and death, light and darkness, middles, beginnings, and ends' (ibid.).

From my experience, the relational stories of survival and repair embodied in fireweed can open spaces for conversation on important existential and ethical questions for our times. The first time I organized such a ceremony, the participants could share stories of their personal relationship with specific plants. One participant shared her knowledge and passion for foraging plants in the wilder corners of the city as medicine and tea. Another remembered

growing up in a rural area, with plant-wise grandparents, and how he became detached from this reality while living in the city. Another time, the fireweed helped to host a space for doctoral students on a course about critical perspectives on green energy transitions and organizing alternatives in the north. After our visit to a community-based initiative on an island that was working to strengthen local resilience and sustainability amidst rural depopulation, we dedicated our sharing circle to a different kind of resilience – an inner one, i.e., what gives us meaning as academics to keep going in these dark ecological times?

In both these cases, the fireweed tea ceremonies are meant to serve as spaces for listening and storytelling, where narratives emerge in dialogue with the plant's qualities—its resilience, its capacity to repair disturbed landscapes—and its cultural meanings of healing. This resonates with Bryan Grimwood and Emily Höckert's (2023) call for "vegetalizing" research through care-full, relational methods that invite collaboration and speculative storytelling with more-than-human beings. Rather than extracting data, the fireweed tea ceremonies can hopefully serve as an example of how to learn from our plant teachers: slowing down, attending to presence, and weaving stories that cultivate responsibility and moral imagination. Many questions remain, of course, as I only embark on this project – Did the tea ceremonies, as very brief disruptions in the rhythms of everyday life, have any *transformative* impact on the participants? Can we ever know and *measure* such a transformation? Should we even try?

With this experiment, my hope has been to humbly share an emerging methodology that combines philosophical reflection with experiential practice, positioning fireweed as a co-author in imagining futures of more-than-human survival in the north.

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DO TREES HAVE (UNDER)STANDING?

Speculating criteria for the legal competence of environmental personhood

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ABSTRACT

This is a post-humanist speculative writing piece on the legal competence of environmental personhood. The legal concept of environmental personhood was established to safeguard the environment and recognise Indigenous peoples' relationships to natural entities as a part of their rights. However, a personhood capable of legal actions only through a named guardian inevitably questions the capacity and competence of nature to speak for itself. This study evaluates the validity of this competence by considering nature's ability to observe, remember, communicate, and remain truthful. These elements are all studied here as aspects of language. The fragments of material for the study are collected from sources ranging from graphic novels to classics of literature, from anthropological studies and linguistics to landscape architecture. Such inquiry does not attempt to discredit the legal concept or to make claims for the environment as an autonomous legal actor; rather, it aims to study the possibilities of building capacity for guardianship to strengthen its legitimacy and ethicality in relation to multispecies natural entities.

INTRODUCTION

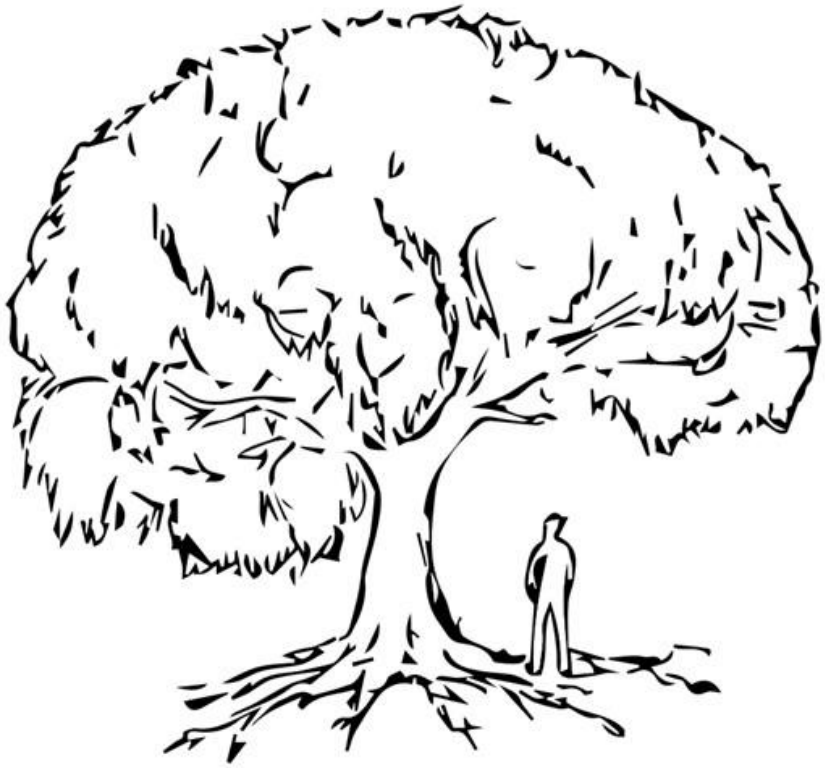

Figure 1
Digitalised drawing: "Standing under." Image credit: Joonas Vola

The title of this piece is a reference to Christopher Stone's article *Should Trees Have Standing* first published in 1972. It became the groundbreaking work for discussing the legal rights of natural objects and the development of environmental personhood. It builds on legal personhood, which is a foundational concept of Western law (Kurki, 2023, p. 1). Environmental personhood, in short, designates for certain environmental entities the status of a legal person, assigning them with rights, protections, privileges, responsibilities and legal liabilities. The focus is on the protection of nature and the recognition and fulfilment of Indigenous and human rights. Although the natural entities with legal personhood are still few, they exist through different national legislations around the globe, from New Zealand to the United States, from Canada to Spain. Each has had a unique path to existing as a legal person.

Due to the physical form and location of these legal entities, their access to courthouses is either limited or entirely impossible. A river would need to flood into the court, leaving it out of order and uprooting forest trees so that they lose their standing. Therefore, a designated guardian can act on the entity's behalf to represent it and to protect its rights. But how may

the legally represented entity express its will and give its consent? Here I will partially question guardianship as the solution for the legal representation of environmental personhood. I will consider the possibility that, to some extent, the environment could express itself within legal procedures, which falls under the capacity and competence of the legal subject.

What is meant by legal capacity? It is a quality denoting the aptitude of either a person or legal entity to have rights and liabilities. Visa A.J. Kurki differentiates passive legal personhood before the law from legal capacity as an incident of active legal personhood, calling it legal competence, where the legal person is "being empowered to decide about one's own affairs" (Kurki, 2023, p. 8, n. 21). In his work in 1972, Stone does not speak extensively in terms of legal capacity or legal competence. He only asserts that a natural object, through its guardian, is competent to bring damage claims, and that legal action should go beyond competent persons with economic claims to defend threatened environments as such. A specific environmental entity or aspect of the environment that has been granted legal personhood or legal personality in principle "ha[s] the capacity to hold rights, under some legal system" (Kurki, 2023, p. 1).

But does it have legal competence without an acting guardian, given that a guardian ought to take care of the interests and legal actions of an incompetent person? Can a criterion for the environment's competence be defined that indicates that the legal person has both the understanding and the capabilities to express or indicate such understanding? These definitions may differ between legal systems and legal procedures, yet the following criteria are drawn from those that are commonly used: ability to observe, ability to remember, ability to communicate and ability to remain truthful. Observations may be limited by sensory impairment and influenced by immaturity due to one's youth. Memory is influenced, beyond recalling capacity, by the passing of time—for example, the time that has passed after the witnessed event and the reliability of the recalled event. The ability to communicate is limited by the ways in which one may utilise language, for example speech or writing, or maybe by the capacity to be read or to be heard. The latter also addresses the question to human agents and their capacity to understand nature's communications, to observe it and to access its memory. It is rather a question concerning peoples' literacy and listening comprehension.

POST-HUMANIST SPECULATIONS

In the spirit of post-humanism, I consider the first three criteria for competence—to observe, remember and communicate—as different yet simultaneous aspects of language. Language records and remembers observations and communicates them further, it is fully material and it is not limited to humans. The highly contested Sapir-Whorf hypothesis, or the theory of linguistic relativity, acts as an important inspiration for thought when discussing the relation between the world and words. The hypothesis claims that the grammatical and verbal

structure of a language determines or influences how humans exist and live in the world and that differences in language affect our thoughts, perceptions, and behaviour (Crystal, 2008, p. 422). That means that by studying how we use language to depict nature shows also how we perceive it, remember it collectively, try to communicate about it or with it, and how we speak our truth about it. Furthermore, linguistic relativity is not one directional. How things are spoken about influences how they are acted on, what they are and what they might become. This makes the relativity between the world and the language a target for speculation.

I concentrate on speculating scientifically to find "fault with currently accepted theories, and […] lead to new ways of thinking" (Achinstein, 2019, p. x). Speculation happens when one is lacking certainty but has pieces of evidence that provide a reason to hold a particular belief (p. xii). As a method, speculation refers to both "the activity of speculating and to the product of that activity" (p. 1). I present historical, poetic, artistic, factual and fictional examples depicting nature and natural entities that help me to speculate on the linguistic competence of an environmental entity and our capacity to understand it. After doing so, I investigate what the fourth criterion (remaining truthful) would stand for.

In her novel *Little Men* (1871), Louisa May Alcott uses the phrase "sermons in stones, books in the running brooks" to communicate that, beyond classroom discipline and spiritual training in church, nature outdoors can be a teacher. This teacher does not only instruct children to learn about itself—nature—but also gives them physical and, furthermore, moral education, since God is speaking through all things. At the same time, in accordance with a post-humanist reading, stones and water can have a linguistic capacity: they suggest meaning, they record and replay events, they conceal memory and enable recollection and they have patterns and structure to follow, to build on and to fill in. Language does not operate upon described environment. It is deeply rooted in it.

Something quite similar is expressed in Craig Thompson's graphic novel *Habibi* (2011). In one of the sections depicting the origins of language and Arabic script, a running and meandering river begins to dry and form small ponds. These separated areas of water that are still connected by the same riverbed read as written lines of *abjad*. Finally, the river dries completely, and the sounding water that has transformed into written language falls silent (Thompson, 2011, p. 31). This scene shows how environmental entities, such as major rivers, materially enable civilizations to develop along them, yet also face their own demise because of this development. Under growing cultivation, they stop being rivers and become something else. The question remains whether this transformation shows the capacity to communicate and remember or a lost competence to do so. It clearly entails a risk of losing those things which the language has referred to and from which our vocabulary and narratives have emerged from. Words become unworldly and empty of meaning.

Following David Abram's *Spell of the Sensuous* (1997), inert letters have animated beings embedded in them, and even a cactus can speak when a Zuñi elder focuses her eyes upon it

and reads its silent voice (p. 131). It is the human's ability to observe, rather than the environmental entity's competence, that is in question and that carries the burden of proof. It is not then a question of whether nature can communicate but whether a human can observe, remember how to read and receive what is communicated. As reading often follows lines, and words follow one another, divided by gaps and pauses, so too may an environment be read *alongly*, whether this movement follows a river or a track (Ingold, 2007, p. 89). In studies presented by Tim Ingold, a path stands for remembrance, verbal maps are derived from observations and narrative journeys begin and end with communication. A mapping of "*karsikko*" (pruned trees) in Fennoscandia marks with horizontal lines the areas where people have traditionally communicated by removing branches from trees in specified ways (Konkka, 2022a, p. 85). These lines on the map may be read as an empty notebook in which one writes observations above the lines to remember later and communicate further. While these pruned trees are signs of human activity, they do not only indicate interaction with the natural world as a collection of physical objects that point out good fishing and hunting grounds as communication tools between humans in the region. They move beyond human observations and actions into the post-humous and spiritual realm of the dead human relatives and ancestors in the form of remembering and communicating with supernatural and natural forces, as well as remembering and reanimating those who have returned to the land and moved beneath it (Konkka, 2022b, pp. 61–81). Here language written with trees overcomes the threshold between human and nature, present and past, the living and the dead, material and spiritual, and natural and supernatural. Such concepts become highly relative instead of being fixed boundaries. These pruned trees will remember as long as they stand. It is another question whether people are competent to read their messages.

As humans impose language on humans, they may also impose language on landscape, subjecting it to grammar, letters and punctuation to create meaning and enforce norms and order. Lancelot 'Capability' Brown, the influential English landscape architect of the 18th century believed that a landscape has a capability that can be brought out in a grammatical manner, shaping it (see Gregory, Spooner & Williamson, 2013, p. 20; Kuiper, 2020) into what we might call a park or a cultural landscape, transforming natural landscapes from noise into cultivated speech. Here land has the competence to utilise language through human assistance and intervention. Sometimes these capabilities are not truly captured by linguistics alone but become meaningful only in relation to that living-world from which that language originates and in which it lives as well. In Ingold's example of A. Irving Hallowell, it is not the grammar that defines whether a noun such as "a stone" in the Ojibwa language expresses something animate or inanimate, but whether certain stones in practice performed as living things, while others did not (Ingold, 2002 pp. 96–97). This observation takes us beyond grammar to lived relational realities.

CONCLUSIONS

Environmental personhood is part of how we as humans talk about nature and how we discuss it through legal concepts. In line with linguistic relativity, the way how we talk inevitably influences what we can perceive, remember and communicate. Here the question is not only whether *it* observes, or if *it* remembers, or if *it* communicates. The question should be placed not only on the environment but also on our ability to understand it and its standing, to understand it through our human nature, enabling planetary justice by the force of law. That direction is also where Christopher Stone is taking his argument concerning the legal rights of natural objects or entities. He is not only discussing the capacity and competence of environmental entities to perform under law but is also concerned with how we should cultivate our personal capacities as humans to recognize more and more the ways in which nature is like us and those in which we are significantly different (Stone, 1972, p. 498). Maybe we can come in terms with nature by applying legal concepts in new and more just ways. Perhaps legal linguistics should be studied in tandem with linguistic relativity hypothesis, not only to subject nature to legal language but also to understand the nature of law. This comprehension would concern the potential assigned guardians of the natural entities, as well as the courts making decisions about them. Environmental entities as legal persons may not require a guardian for legal representation, but rather an interpreter. It is also in question whether language functions as a means of trust or a means of domination, and whether law and order enable rather than disable. That line of reasoning would place the last criterion of competence onto us as humans, asking whether we may remain truthful to justice and take an oath not to defile the planet or make human heritage an abomination.

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THE DEATNU TRAP-FENCE SYSTEM AS SPACE FOR ENVIRONMENTAL KNOWLEDGE

Sámi fishers' knowledge, science, and epistemic power asymmetries in salmon fishery management

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ABSTRACT

The Deatnu (Teno/Tana), the most important Atlantic salmon spawning site in Europe, has faced severe ecological challenges in recent decades. Since the 2000s, native salmon stocks have declined sharply while invasive pink salmon populations have surged, prompting the Norwegian Environmental Agency to implement a large-scale trap-fence system in 2023 and again in 2025. Designed to intercept pink salmon while allowing native salmonids to pass, the system reflects technoscientific approaches to fisheries management that prioritize fish as quantifiable resources. The effectiveness and ecological consequences of the trap-fence system remain highly contested. It failed to meet its objectives, raising critical questions about its impact on Atlantic salmon and its disconnect from local ecological knowledge.

This research situates the trap-fence within broader debates on multi-ontological objects and more-than-human contact zones. While previous studies emphasize trap materiality and political landscapes, they often neglect the dynamic qualities of the environment including water and fish. We argue that the trap-fence enacts ownership relations and reinforces state-centric governance, marginalizing Indigenous Sámi knowledge systems and traditional practices such as the *buođđu* weir, which embody sophisticated human-fish-environment relations. The system's rigidity contrasts with the fluidity of river ecologies, hindering knowledge pluralism essential for adaptive governance. Moreover, its design and placement disregarded local expertise, generating cultural, social, and economic losses for Sámi

communities whose livelihoods depend on the river. However, the uncontrolled leaking qualities of the trap-fence give some hope for the local Sámi community to pursue their traditional fishing practices to catch pink salmon. By examining the trap-fence system as a site of knowledge production and the leakage, we highlight how the system mobilises knowledges in competing sides and how the elusive character of river landscape challenges fisheries governance. This study contributes to ongoing discussions on relational approaches to environmental management and caring for more-than-human worlds.

THE TRAP-FENCE SYSTEM AS SPACE FOR EPISTEMIC POWER ASYMMETRIES

The subarctic river Deatnu (Teno in Finnish, Tana in Norwegian) is one of the most important Atlantic salmon spawning rivers in Europe. In the 2000s, the Atlantic salmon stocks in the Deatnu watershed have been in a strong decline. Along with this trend the population of invasive pink salmon has significantly increased which is considered a severe threat for the local ecosystem and, thus, defined as harmful alien species by Norwegian state. In Finland pink salmon is defined as alien species. Therefore, the Norwegian Environmental Agency (Miljødirektoratet) was authorised to install a large trap-fence system in Deatnu to eliminate as much pink salmon as possible whilst letting native salmonids through to continue their spawning run. The trap-fence system was installed in the summer of 2023 for the first time and once again in the summer of 2025. The success of these projects has been highly disputed (e.g. Domaas et al., 2024).

Within literature on traps there has been a focus on them as multi-ontological objects that emerge out of the intersection of the worlds of the hunter and the hunted (Gell, 1996; Spriggs, 2019). The focus on the materiality of trap design has largely neglected the important part of the life of traps, which is their use by those who have not engaged in trap design. The same salmon traps have multiple world-making effects depending on the different set of relations they are pulled into. Swanson (2019) aptly reveals how traps may sit at the junctures of the lifeworlds of different interest groups, including Indigenous people, who may have not participated in trap design and making, but whose worlds became bound up with them. By focusing on the meaning and material form of traps and their effects, previous research has focused on the surrounding political landscape (e.g. Swanson, 2019) and has somewhat ignored the qualities of the fish and particularly the medium within which the trap is deployed – namely the water.

In our research, we aim to direct more attention to the emergent form of entangled and ecological relations and related knowledges enfolded within traps. To aim attention to cross-species encounters within the trap-fence system, we consider the system as a more-than-human contact zone – a space for the generation of practical and embodied environmental knowledge (Fredriksen, 2019). The system was erected on the spot where it could be

maintained the easiest way – not caring for how the fish, Atlantic salmon particularly, uses the water during migration. As a result, the trap was a failure in terms of catching and the fish. Thus, a large knowledge gap exists particularly on how it affected the native salmonids (Domaas et al., 2024). From the beginning the local Sámi fishers strongly disagreed with the way the system was erected. The design and management of the trap-fence system were based on technoscientific modes of knowing and managing fish as countable, commodifiable and own-able entities (Ween, 2012). Moreover, the remote encounters neglect the mediums, including water (Lien, 2023) and weather (Ingold, 2010) in which the trap operates. Following Swanson (2019) the trap fence is not tightly coupled to the worlds within which it is deployed. As such it is quite far from the traditional *buođđu* weir of the Sámi, which requires sophisticated knowledge of the human-fish-environment relations (see Hansen, 2012; Frandy, 2021).

As a contact zone the trap-fence system is a place "where bodies become irresponsible towards one another, spaces not only unequal power but also of grave bodily and cultural violence" (Fredriksen, 2019, p. 776). However, the irresponsibility, unequal power and violence occur in a different scale. The system is like a terrestrial fence that enacts ownership relations and the fish as resources (Lien, 2023; Ween & Swanson, 2018). The design and management of it is based on abstract technoscientific understanding fish-human-landscape relations that does not consider marine ecologies as offering less possibilities for keeping things, including fish, apart. The design and management of the system generate an unknowable and elusive shadow of 'slippery salmon-possibilities. For people' (Law & Lien, 2012, p. 372; see Lien, 2023). As such, the system has been only loosely coupled to the worlds within which it was deployed (Swanson, 2019) and, thus, epitomizes the nation state endeavours of damming and replacing the local ways of knowing and caring for the river and fish.

The trap-fence system literally is a barrier (as the operators of the system themselves have argued) that is not sensitive to the dynamic changes in the elusive qualities of water, fish and the entire Deatnu landscape (see also Ween & Swanson, 2018). The system is quite the contrary to the demands of knowledge pluralism to enhance decision-making to better address the complexity and change to Sámi livelihoods and cultural practice. It dams knowledge flows and thus hinders knowledge pluralism, which is seen crucial for effective governance that addresses the needs of diverse stakeholders and rights holders (Andrews et al., 2018). In fact, the trap-fence system characterizes and carries forward the progression in which the nation states recognise traditional ecological knowledge and include it in the biological assessments only in theory – in practice it does not happen (Law & Joks, 2019). Hence, the possibility for the local Sámi community to pursue their traditional fishing practices to catch pink salmon and the possible new realities do not unfold. Moreover, the effects of the trap-fence system for the native Atlantic salmon are highly controversial (see Domaas et al.,

2024). Hence, the local Sámi community whose livelihoods directly rely on water flows bears the heaviest economic, social and cultural losses that damming the Deatnu causes.

Through the damming qualities the trap-fence mobilises knowledges in competing sides and thus even strengthens the interface of different knowledge systems. It also leaks not only material and practices but also knowledge to upstream. As a certain number of pink salmon have been able to pass the trap-fence the local Sámi fishers on the Finnish side of the border have been able to apply their knowledge and traditional salmon fishing methods on pink salmon.

With our research on the trap-fence system as space for knowledge production we contribute to the ongoing debate about the multiple ways of knowing and defining fish (Todd, 2014) and interfacing of knowledge systems in management of fisheries (e.g. Law & Joks, 2019). Hence, we want to show that fish enacted by the technoscientific modes of knowing and managing are often decoupled from the worlds within which they are deployed. Thus, scientists and managers should pay closer attention to the human-fish relations, including modes of caring and sharing, that are only partly known (Lien, 2023). They should give value to the leaking quality of the system they have built as things "can exist and persist only because they leak" (Ingold, 2013, p. 95). Leaking is central quality for the for the traditional *buođđu* weir. By examining the contested venue of Deatnu trap-fence system we want to bring new insights to the understanding and acknowledgement of Sámi rights and knowledge in the management of Deatnu (salmon) fishery.

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SUMU CLOSING WORDS

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Yesterday, during lunch break after the morning sessions, I was invited by Juuli and Daijiro, two inspiring young scholars from the local team hosting this conference, for a swim in the Kemijoki, the Kemi River. As much as I enjoy the sessions, you all know how draining a conference can be. Immersing my body in the cold, flowing water was a much-needed restart that gave me energy.

Yet it was also a moment of vulnerability with piercing cold burning my skin. We have learned during these three days that vulnerability is not just an unavoidable part of being alive – it might also be a necessity in these dark and precarious times. It can provide openness to be affected by the Other, which is a prerequisite of care.

In her opening keynote, Gro Ween mentioned the importance of 'radical softness', how deep encounter with the other can be a revolutionary moment. Drying in the sun after a cold dip I could not stop but think how my refilled energy levels were tied to the much wider energy landscapes of this area, where the river body, along with other non-human bodies, are tamed and harnessed in the name of the grand project of progress.

The river can also serve as a metaphor for the power of co-creation during this symposium. Each of you brought *streams* of ideas and knowledge – either rapid and loud or slow and quietly gurgling – that all come together in one flow. And just as a river can be a guide showing the way to a lost hiker, so have you all been guides to each other – revealing new ways of being, thinking, and living in these times, and making visible and audible all the more-than-human voices and stories that otherwise remain marginalised in our institutions.

I myself have been guided into many territories these days; it is hard to count them all. From the tiny microbes dancing in my guts, to the threatened Atlantic salmon whose disappearance brings with it the disappearance of land-based knowledge and ways of life, to the urgent need for disrupting and rethinking the ontologies and practices of education so it can incorporate a

life-centric view, and all the way to the systems of governances, law, and taken-for-granted rights of public access to nature, which all become challenged and negotiated once we truly start to acknowledge that we share land with Others.

At the opening ceremony, SuMu was presented as a community for researchers who do not simply want to be the observers of change. From all of you, I have learned how academic work with an interest of societal change comes with a challenge of treading boundaries between at times conflicting territories – whether it is between the Indigenous, scientific, and artistic knowledge systems, or between the dominant academic structures and alternative pedagogies and research methods. This boundary-work is not about romanticizing endless flexibility, but rather navigating tensions with care, while refusing to lose sight of one's own commitments and values.

Finally, floating in that cold river, I was once again reminded how caring for others is entwined with self-care. In these ever-accelerating times, that have not spared academia, slowing down and resting have ironically become a revolutionary act too. When the lights in our rooms and computer screens require so much sacrifice on behalf of others, perhaps we might start switching off lights more often and learn to make kin with darkness. Slowing down has also consequences for the way we do research – with proximity, care and curiosity, amidst the productivist and extractivist rhythms of the knowledge industry.

Just before the colloquium started, Ammi and Salla – two other inspiring scholars from the local team – held a workshop on 'slow science'. We were given magazines to select, cut out, and puzzle together words in a poetic way to reflect on growth and slowness.

So to finalize my reflection, I would like to read a poem by Ilmari Miettunen that came out of this process –

Becoming nervous and distracted might not feel great at first

Bake a cake

Better than

Digital cameras and smartphones.

- Rovaniemi, 25/9 2025

SUMU CLOSING WORDS

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In my closing words, you might find some words that sound familiar to you. It might be, because these are your words, that, through my notes and in this reflection, became mine, and might now become ours again. So, in the closing words, we, Maxim and I, were invited to reflect on the future. “What an easy task” I thought – and I hope you can sense the sarcasm here. So, to borrow from Karen Barad, I start by returning to my notes from the last two days. A returning as a turning them in and out, over, upside down, one way or the other, to see if I can find some ‘easy’ futures that I can present to you; easy futures for me, for you, for the multispecies community in here and out there.

And as I start to flick through my pages of notes and reflections, I feel the anxiety, grief, and uncertainty catching up through the words and lines in my notes.

> What if the glaciers have nothing more to show?
>
> What if the salmon boat has nowhere left to row?
>
> What if the rivers have nothing left to flow?

I wonder and ponder: What if we managed all this to extinction? The beings that breath and those who do not, the landscapes no longer to be walked.

Here I stand, in the sumu – which is Finnish for fog or mist, as I learned. In the misty, foggy planes of unknown future landscapes, with no single route to map or path to build.

But what if we just walk up to the fence, and maybe take a step beyond? Make use of our right to roam, and take with us our responsibility to do so. Taking responsibilities for futures, even if they are still in the sumu. Opening a pluriverse of losing, grieving, speculating, joyfully hoping for the future. And almost as I wanna take a step towards this future and leave the fog, the sumu, the past behind, I pause.

I dwell a little longer, entangled in layers of possibility and problematics, in queering norms through leather skins, as others, as each other, as findings homes, vulnerabilities, masculinities and ontologies, that are only sometimes also my own. Weaving wool with naturecultures, traveling and travel-writing with glaciers, words, river chants. Dealing with the shit that's left behind. Surrendering, resting, telling hybrid tales, visiting urban glaciers & following beach reindeer. Folding in and as transformation just as the colorful textiles.

And as I still stand here in the SuMu, I return to you, all critters here in this room. And I think: talking about the future, what an easy task! It is what we have done here all along. Drawing connections, developing ways of listening, speaking, seeing, researching, witnessing otherwise together. Maybe the future has been here in the SuMu, all along.

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